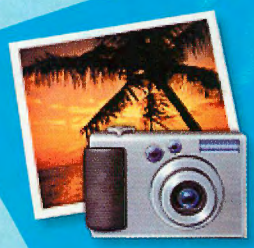
MAC MINI HACKS: RAM, DRIVES & *OVERCLOCKING!*

105 MAY 2005

MacAddict

A BETTER MACHINE. A BETTER MAGAZINE.



Insider Secrets:

iLife '05

- Expert Tips
- Power Plug-Ins
- Bugs Debugged

Our experts explain how to exploit iLife's powers—and how to quash its quirks!

ERGONOMIC KEYBOARDS
Your keyboard is out to get you—here's your defense.

REVIEWED:
- iWork '05 productivity suite
- Olympus Evolt E-300 SLR
- Treo 650 phone and PDA
- HP Business Inkjet 1200d

APPLE'S NEW POWERBOOKS
...and 13 more

HOW TO:
- Convert PC Video Files to QuickTime
- Use Skype to Chat While Gaming Online
- Turn Your iPod into a Linux Voice Recorder

future network usa
Media with Passion

www.FirstToFight.com

This is the TIP of

You are the First to Fight – a US Marine on the front lines of urban combat in Beirut. Lead a 4-man fire team that executes authentic Marine tactics. Move aggressively, knowing your team gives you 360-degree security, and devastate your enemies with precise air and mortar attacks. Experience a first-person shooter so realistic, the Marines use it as a training tool.

Play single-player, 4-man co-op, or go head-to-head in the Fire Team Arena.

BASED ON A TRAINING TOOL DEVELOPED FOR THE UNITED STATES MARINES

America's Military Spear.
You're on Point.

CLOSECOMBAT

FIRST TO FIGHT

THE REAL-LIFE COMBAT EXPERIENCES OF THE PROUD FEW.

Available Simultaneously
for Mac, PC and Xbox

COMING SOON! Visit www.macsoftgames.com

TEEN
T
Blood
Violence
ESRB CONTENT RATING www.esrb.org
Game Experience May Change During Online Play

Mac

POWERED BY gamespy

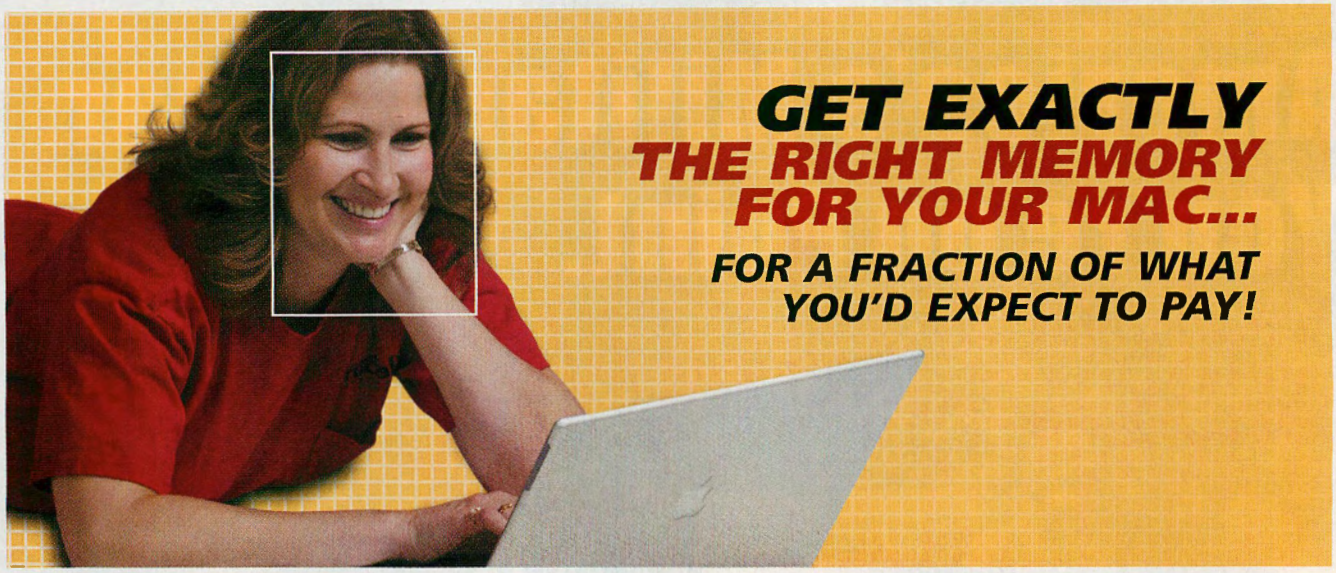
ATOMIC GAMES

DESTINEER®

MacSoft

THE STORY PORTRAYED HEREIN IS FICTIONAL. NEITHER THE UNITED STATES MARINE CORPS NOR ANY OTHER COMPONENT OF THE DEPARTMENT OF DEFENSE HAS APPROVED, ENDORSED, OR AUTHORIZED THIS PRODUCT.

Copyright 2005 Destineer Studios, Inc. First to Fight, Ready-Team-Fire-Assist, and The Real-Life Combat Experiences of the Proud Few are trademarks of Destineer Publishing Corp. MacSoft and Destineer are registered trademarks of Destineer, Inc. Close Combat is a registered trademark of Atomic Games, Inc. and is used under license. Macintosh version published by Destineer, Inc. The ratings icon is a trademark of the Entertainment Software Association. Game experience may change during online play. Mac and Macintosh are registered trademarks of Apple Computer, Inc. GameSpy and the "Powered by GameSpy" design are trademarks of GameSpy Industries, Inc. All rights reserved.



GET EXACTLY THE RIGHT MEMORY FOR YOUR MAC...

FOR A FRACTION OF WHAT YOU'D EXPECT TO PAY!

You know that finding just the right memory upgrade plays a big part in getting the performance you want from your Mac (and that upgrading your Mac's RAM can save you a bundle of cash compared to buying a new system). Now that you're ready to get your upgrade installed and start enjoying better performance, how do you figure out who has "the best deal" on Mac memory? You'll see tons of "lowest-price-anywhere!" deals, but really getting the best deal involves more than just price—it's also about things like compatibility, performance, and support. That's where Crucial comes in.

Will your memory be COMPATIBLE with my Mac?

Today's Macs require specific memory designed to exacting standards. Do you really feel comfortable trying to sort through a foreign-looking list of base part numbers to figure out which memory is right for your Mac? Our Crucial® Memory Advisor™ tool has approximately 594 upgrade choices for 250 distinct Mac models. In just three clicks, we'll provide you with a specific, detailed list of compatible upgrades, recommended upgrades, and even the most popular upgrades. Your FREE memory upgrade advisor report will show you only the parts that we guarantee will work in your Mac, or your money back!

We're able to do this because Crucial is a division of Micron, one of the world's largest memory manufacturers and a supplier to leading notebook and desktop manufacturers (OEMs). Micron collaborates with OEMs to develop memory that will perform compatibly with the rest of the system specifications; in fact, chances are good that you have Micron memory in your Mac right now!

What kind of PERFORMANCE can I expect?

Whether you use your Mac as a tool for schoolwork or household bills, an entertainment center for music or movies, or as part of your job in image editing and design, a Crucial memory upgrade is a fast and easy way to prepare your Mac to run faster, multi-task between applications, and open large files. Our Memory Advisor tool provides you with information to advise you and explain the various levels of performance gains you can expect when you purchase a certain upgrade.

Will your PRICE max out my credit card?

You want the assurance that your memory upgrade is the right match for your Mac and that it will be the same quality as the original manufacturer's parts, but you hate paying the premium "dealership" price. As the only consumer memory upgrade provider that's part of a major DRAM manufacturer, Crucial sells OEM-quality modules over the Internet at factory-direct prices.

On top of that, enjoy free shipping (for a limited time, on orders shipped within the contiguous U.S.), free customer service, free tech support, and a free limited lifetime warranty.

Will you SUPPORT the product after the sale?

Don't worry; we won't leave you hanging if you need help. Our expert technical support—all "levels" of it—is always free. And our 30-day, no-risk compatibility guarantee means that if the memory you purchased through the Memory Advisor tool isn't compatible with your Mac or doesn't perform as you expected, simply package it up and send it back.

Crucial is the answer for Mac memory!

With Mac memory from Crucial, you get premium quality and premium service without paying premium price! Crucial's user-friendly Memory Advisor tool and helpful customer support make it easy to get compatible memory for your Mac. Order yours today and start enjoying better performance for your Mac tomorrow!

Exclusive offer for MacAddict readers!

Visit Crucial today, and in just three mouse clicks, get your FREE memory upgrade advisor report for your specific Mac desktop or notebook, including specific performance recommendations, the most popular upgrades, and the best upgrade value for you. **And, for a limited time, Crucial is offering Mac users a SPECIAL DISCOUNT.** To find the right memory for your system in just seconds (and get a great deal!) visit:

www.crucial.com/macaddict

crucial®
TECHNOLOGY
A Division of Micron

The Memory Experts℠

©2005 Micron Technology, Inc. All rights reserved. Information is subject to change without notice. Crucial Technology, the Crucial logo, Memory Advisor, and The Memory Experts are trademarks/ service marks of Micron Technology, Inc. All other trademarks are the property of their respective owners. Crucial Technology is a division of Micron Semiconductor Products, Inc., which is a wholly owned subsidiary of Micron Technology.

MAY2005
NO.105•VOLUME10•ISSUE5
a better machine. a better magazine.

CONTENTS

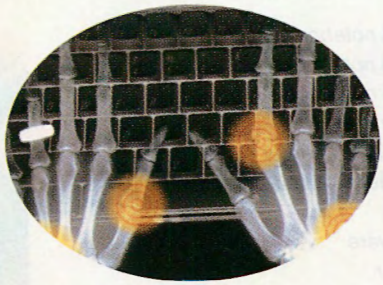
MacAddict

features

16 Understanding iLife'05

Can't make the five apps living in Apple's new creativity suite get along? Our experts answer questions and give advice about common GarageBand 2, iPhoto 5, iMovie HD, iDVD 5, and iTunes issues. **by Shelly Brisbin, Brad Miser, Andrew Tokuda, and Johnathon Williams**

26 Untwist Your Wrist



Too much typing turning your mitts into twisted talons? Here are some keyboards that may help save your wrists. Just don't get too self-conscious—some of them look kinda funny. **by Jake Widman**

32 Tanks for Your Memories

Don't know xD from SD? Wondering where to shove your Memory Stick? Our field guide to media cards will help you keep your digital-camera storage options straight. **by Fredric Paul**

how to

52 Ask Us

We show you how to make Yahoo and Hotmail get along with Mail, train you how to break the password protection on encrypted PDFs, and teach you what to do with those annoying expired demos that just won't go away. We've even got a sewing tip this month!

54 Max Out Your Mac mini

You may like your Mac mini just the way it is, but our resident mad scientist (and *How-To* editor) knows secret ways to unlock its hidden potential–some of which are crazier than others. **by Niko Coucouvanis**

59 Convert PC Video Files to QuickTime

Sick of running into WMV and AVI files whenever you want to watch a video? Here's how to translate alien video formats into something QuickTime can understand. **by Johnathon Williams**

60 Put Linux on Your iPod

Prove your supreme geekery to the world by installing everyone's favorite open-source operating system on your personal music player. Make a penguin proud! **by Alex Handy**

61 Use Skype to Chat While Gaming

Typing's so 2004. You can *speak* with your friends in World of Warcraft and other online games by using Skype, a powerful, simple-to-set-up online voice-chat app. **by Chris Barylick**

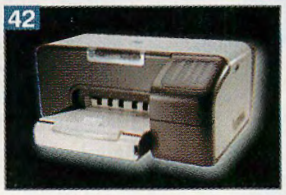
every month

08 Editors' Page
Our editor in chief discovers that Apple's marketing department is far too modest.

10 Get Info
There's an iPod out there with your name on it—maybe it's one of the new 4GB and 6GB iPod minis. One of them is even less than $200 (guess which one). Also, the iPod Case of the Month gets fuzzy, how to fix Software Update, helpful AppleScript books, why the accordion is cool again, and more.

35 Reviews
38 12-inch PowerBook G4 *notebook*
38 15-inch PowerBook G4 *notebook*
38 17-inch PowerBook G4 *notebook*
50 AirPlay *iPod FM transmitter*
42 Business Inkjet 1200d *inkjet printer*
45 Call of Duty: United Offensive *first-person shooter*
46 Callisto mk II *speakers*
40 Carrara 4 Pro *3D software*
46 DJ Console *audio mixer*
41 Evolt E-300 *camera*
50 H-D70 FlipUp *camera-LCD sunshade*
48 iDive *video-management software*
36 iWork '05 *productivity suite*
49 MTX: Mototrax *dirt-bike racing game*
50 Picture Rescue *media-card utility*
44 Primatte Chromakey 2.0 *Photoshop masking plug-in*
48 The Mouse BT *Bluetooth mouse*
49 TrayDock *hard-drive enclosure*
44 Treo 650 *phone and PDA hybrid*
47 VerticalMouse 2 *ergonomic mouse*

51 The Hot List
We'd spend our own hard-earned money on these products.

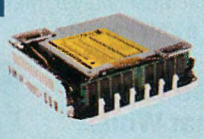


78 Log Out
78 Letters
Our readers tell us their blog secrets, show us their crafty iPod cases, and—best of all—share their cookies! Also, one astute reader uncovers a disc-design conspiracy worthy of *The X-Files*.

79 Contest
Win a set of ProSticks powered speakers from DVForge and have your neighbors call the cops on your next party.

80 Shut Down
Apple's mass-market penetration is complete.

QUICK TIPS
FROM THIS MONTH'S ISSUE

→ WIRELESS MINI

Upgrading a Mac mini's RAM, hard drive, and optical drive is a simple procedure that most people can do at home. Adding AirPort and Bluetooth, however, requires parts that only an authorized Apple representative can supply—and install.
From "Max Out Your Mac mini," p54.

→ BRAKE BEFORE TURNING

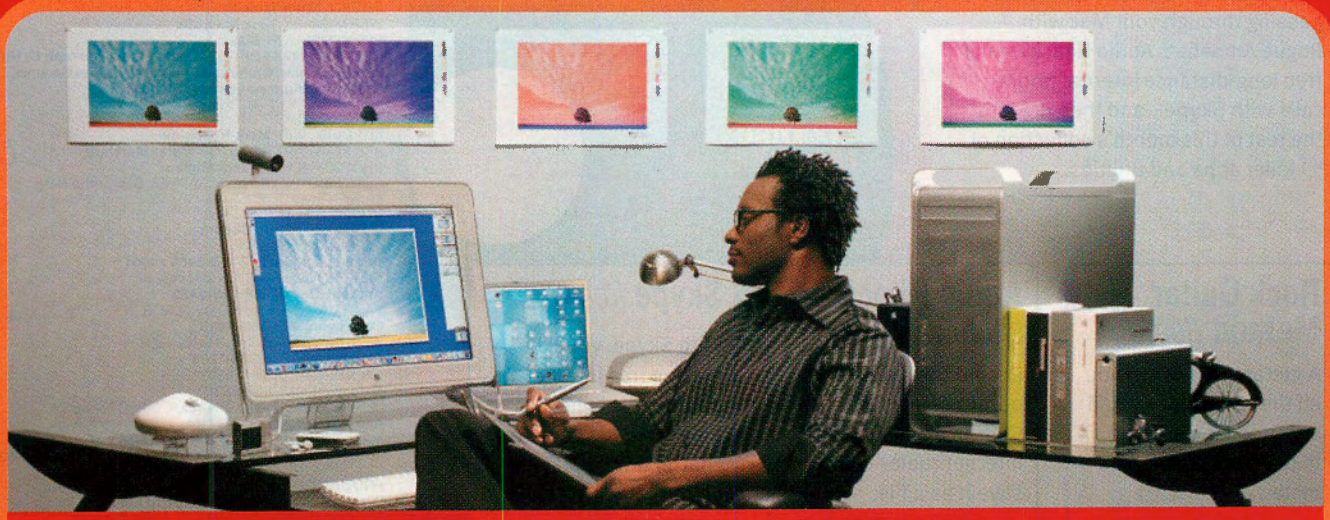
Tight corners are great places to improve your time in any MTX: Mototrax race. The trick is to press the clutch (or let up on the gas) just before a turn, then punch it about midway through the turn.
From *Reviews*, p49.

→ iMPROVISE
Need a low-budget microphone? Apple's in-ear iPod headphones work in a pinch.
From "Put Linux on Your iPod," p60.

→ FIND & REPLACE BUG
Be careful when using iWork's Find & Replace. It puts your replacement word wherever your cursor is located before it seeks out the first instance of the word.
From *Reviews*, p36.

Everything to concept, collaborate and create.

(Well, except the great ideas.)



Apple® Power Mac® G5

- Dual 2.0GHz PowerPC G5 processors
- Memory: 512MB
- 160GB Serial ATA hard drive
- DVD-R/CD-RW SuperDrive™

Authorized Reseller

$2495 DESKTOP CDW 653856

-30 TRADE-IN[1]

$2465

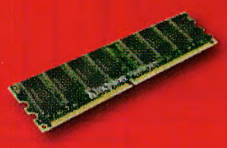
Recommended Service:
AppleCare® 3-year onsite protection plan
$249 (CDW 442761)

Adobe® Creative Suite (CS) Premium Bundle

- CS Premium combines full-version upgrades of Adobe's leading professional tools–Adobe® Photoshop® CS, Adobe Illustrator® CS, Adobe InDesign® CS, Adobe GoLive® CS and Adobe Acrobat® 7.0 Professional
- Create outstanding imagery, stunning graphics and striking layouts while easily tracking file versions
- Bundle includes Adobe® Creative Suite Premium and Total Training Tips and Tricks

Adobe

FULL VERSION FOR MAC®
$1155
CDW 723879



Kingston 1GB Memory Module for Apple® Power Mac® G5

- 100% compatibility guaranteed
- Free manufacturer's lifetime warranty and technical support
- Legendary reliability and superior quality
- Visit CDW.com/kingston to find your memory solution

Kingston TECHNOLOGY
COMPUTING WITHOUT LIMITS™

$229[12]
CDW 511657

The Mac Solutions You Need When You Need Them.

When you're bringing ideas to life, your technology should work with you, not against you. CDW has all the top-name technology you need to improve workflow. Our account managers provide fast answers to your product questions. And with access to the industry's largest in-stock inventories, you'll get what you need, when you need it. So why wait? Get new systems today and start creating tomorrow.

CDW | macwarehouse®

The Right Technology. Right Away.™

macwarehouse.com • 800.ALL.MACS
In Canada, call 800.387.2173. • CDW.ca

[1] Processors eligible for trade-in include PowerPC G3, G4, G5, Intel Pentium II, III, 4 or Intel Celeron; AMD processors do not qualify; trade-in values are estimates only; actual trade-in values may vary from $25 to $500; all products must be in good working condition and have a fair market value; call your CDW account manager for details. Offer subject to CDW's standard terms and conditions of sale, available at CDW.com. © 2005 CDW Corporation

the disc

Become a guitar god with eMedia's Rock Guitar Method, record audio passing through your Mac with Rogue Amoeba's Audio Hijack, make free long-distance Internet phone calls with Skype—and then dig into the rest of this month's collection of 55 killer apps and utilities.

Rock Guitar Method *demo*

A guitar pro teaches you all the techniques you'll ever need if you want to play rock, punk, and metal.

Audio Hijack *shareware*

Record the sound output of any Cocoa or Carbon app—including Internet radio—and save it as a file.

Skype *freeware*

With Skype, you'll be making free Internet phone calls in no time—and it's good for chatting while playing online games, as well.

AUDIO & MUSIC
- **Audio Hijack 2.1.3** *shareware*
- **Make Bookmarkable** *freeware*
- **MPFreaker 1.0** *shareware*
- **Rock Guitar Method** *demo*
- **WireTap Pro 1.0.1** *shareware*

DEVELOPMENT
- **REALbasic OS X 5.5.4** *demo*
- **TextWrangler 2.0** *freeware*

FUN & GAMES
- **A Farewell to Kings 2.0.4** *shareware*
- **Lugaru 1.01** *shareware*
- **Midnight Mansion 1.0.1** *shareware*
- **MTX: Mototrax 1.0** *demo*
- **Pow Pow's Puzzle Attack 1.0** *demo*
- **Solitaire XL 1.1** *freeware*
- **wordSword 1.0** *shareware*

GRAPHICS & MULTIMEDIA
- **CandyBar 2.0.1** *shareware*
- **Forty-Two DVDVX Plus 2.4** *shareware*
- **iDive 1.2.5** *shareware*
- **iPhoto Diet 3.0.2** *freeware*
- **iPhoto Library Manager 2.0** *freeware*
- **Photo to Movie 3.1.1** *shareware*
- **Picture Rescue 1.1.0** *trial*
- **Shoebox 1.0.2** *shareware*
- **Slick Sampler** *freeware*

INTERNET & COMMUNICATION
- **BetterHTMLExport (for iPhoto 4) 2.0.19** *shareware*
- **BetterHTMLExport (for iPhoto 5) 2.1** *shareware*
- **Conference Recorder 1.0.1** *shareware*
- **Direct Mail 1.4.3** *shareware*
- **Feeder 1.0.2** *shareware*
- **FlickrExport 1.2.1** *freeware*
- **HTTPMail Plugin (Jaguar) 1.42** *freeware*
- **HTTPMail Plugin (Panther) 1.42** *freeware*
- **JiWire Portable Hotspot Locator 1.0** *freeware*
- **Mail Forward X 2.4** *shareware*
- **MailArchive 1.1** *shareware*
- **Photon 1.1** *freeware*
- **PhotoToTypePad 1.1** *freeware*
- **phpMyAdmin 2.6.1-pl2** *freeware*
- **Skype 1.0.0.7** *freeware*

PRODUCTIVITY
- **AquaScribus** *freeware*
- **Directors Boards 1.1** *freeware*
- **Directors NoteBook SA 1.6.1d** *shareware*
- **Directors NotePad 1.0h** *shareware*
- **iClip 3.5.2** *shareware*
- **iPresent It 1.1.1** *shareware*
- **Presentation Prompter 4.1** *shareware*
- **Scribus 1.2.1** *freeware*

UTILITIES
- **BatChmod 1.34** *freeware*
- **DiskTracker (Classic) 2.3** *shareware*
- **DiskTracker (OS X) 2.3** *shareware*
- **DoubleCommand 1.5.3** *freeware*
- **Fink 0.7.1** *freeware*
- **FinkCommander 0.5.3** *freeware*
- **iPhoto Extractor 2.0b6** *freeware*
- **iPodLinux Installer 0.3a** *freeware*
- **uControl 1.4.6** *freeware*

SPONSORS
- **JiWire Portable Hotspot Locator 1.0** *freeware*
- **Photo to Movie 3.1.1** *shareware*
- **Picture Rescue 1.1.0** *trial*

Staff Video: The New Guy (Redux)

Yet another new editor, Sean Molloy, joins the *MacAddict* crew. Join him on his unsettling—nay, infuriating—first day on the job.

UPGRADE

If you don't receive the Disc with your copy of *MacAddict*, you might want to consider upgrading. Each monthly disc contains cool demos, useful shareware and freeware, and the inimitable MacAddict Staff Video. To get 12 issues of *MacAddict* that include this value-packed disc with your subscription (prorated if necessary) for just $1 more per issue, call 888-771-6222—the operator will take care of everything.

MacAddict

EDITORIAL
EDITOR IN CHIEF **Rik Myslewski**
MANAGING EDITOR **Sean Molloy**
FEATURES EDITOR **Jake Widman**
HOW-TO EDITOR **Niko Coucouvanis**
REVIEWS EDITOR **Roman Loyola**
INTERN **Noah Tsutsui**
WEB MONKEY **Nick Muerdter**
EPONYMEDITOR **Max**
CONTRIBUTING EDITORS **David Biedny, Joseph O. Holmes, Helmut Kobler, Cathy Lu, Steven Parke, Ian Sammis, Deborah Shadovitz, Andrew Tokuda, Buz Zoller**

ART
ART DIRECTOR **Mark Rosenthal**
ASSISTANT ART DIRECTOR **Peter Marshutz**
PHOTOGRAPHER **Mark Madeo**
CONTRIBUTING PHOTOGRAPHER **Samantha Berg**

BUSINESS
PUBLISHER **Chris Coelho**
ASSOCIATE PUBLISHER
Bernie Lanigan, 212-768-2966 x4001
EASTERN ADVERTISING MANAGER
Anthony Danzi, 646-723-5453
EASTERN ADVERTISING DIRECTOR
Dave Lynn, 949-360-4443
WESTERN ADVERTISING MANAGER
Stacey Levy, 925-964-1205
NATIONAL ACCOUNT MANAGER
Nate Hunt, 415-656-8536
SENIOR ACCOUNTS MANAGER, DIRECT SALES
Ana Epstein, 415-656-8416
MARKETING MANAGER **Kathleen Reilly**
ADVERTISING COORDINATOR **Jose Urrutia, 415-656-8313**

PRODUCTION
PRODUCTION DIRECTOR **Richard Lesovoy**
PRODUCTION COORDINATOR **Larry Briseno**

CIRCULATION
GROUP CIRCULATION DIRECTOR **Amy Leder**
NEWSSTAND MARKETING MANAGER **Bill Shewey**
BILLING AND RENEWAL MANAGER **Mike Hill**
FULFILLMENT MANAGER **Peggy Mores**
DIRECT MARKETING SPECIALIST **Robin Connell**

future network usa
FUTURE NETWORK USA
150 North Hill Drive, Brisbane, CA 94005
www.futurenetworkusa.com

Media with Passion
PRESIDENT **Jonathan Simpson-Bint**
VICE PRESIDENT/CFO **Tom Valentino**
VICE PRESIDENT/CIRCULATION **Holly Klingel**
GENERAL COUNSEL **Charles Schug**
PUBLISHING DIRECTOR/GAMES **Simon Whitcombe**
PUBLISHING DIRECTOR/TECHNOLOGY **Chris Coelho**
PUBLISHING DIRECTOR/MUSIC **Steve Aaron**
PUBLISHING DIRECTOR/BUSINESS DEVELOPMENT **Dave Barrow**
EDITORIAL DIRECTOR/TECHNOLOGY **Jon Phillips**
EDITORIAL DIRECTOR/MUSIC **Brad Tolinski**
DIRECTOR OF CENTRAL SERVICES **Nancy Durlester**
PRODUCTION DIRECTOR **Richie Lesovoy**

Future Network USA is part of Future plc.

Future produces carefully targeted special-interest magazines for people who share a passion. We aim to satisfy that passion by creating titles offering value for money, reliable information, smart buying advice and which are a pleasure to read. Today we publish more than 100 magazines in the US, UK, France and Italy. Over 100 international editions of our magazines are also published in 30 other countries across the world.

Future plc is a public company quoted on the London Stock Exchange (symbol: FUTR).

THE FUTURE NETWORK PLC
30 Monmouth St., Bath, Avon, BA1 2BW, England
www.futureplc.com
Tel +44 1225 442244

NON-EXECUTIVE CHAIRMAN: **Roger Parry**
CHIEF EXECUTIVE: **Greg Ingham**
GROUP FINANCE DIRECTOR: **John Bowman**
Tel +44 1225 442244

REPRINTS: For reprints, contact Ryan Derfler, Reprint Operations Specialist, 717-399-1900 x167 or email: futurenetworkusa@reprintbuyer.com
SUBSCRIPTION QUERIES: Please email mcdcustserv@cdsfulfillment.com or call customer service toll-free at 888-771-6222.

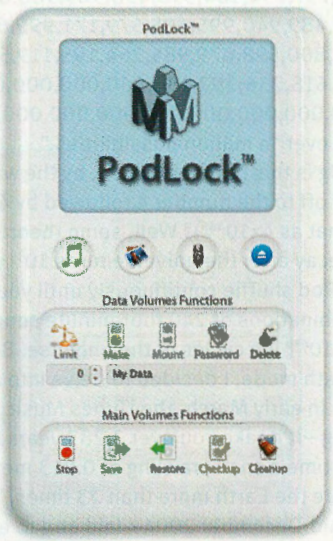
Volume 10, Issue 5
MacAddict (ISSN 1088-548X) is published monthly by Future Network USA, 150 North Hill Dr., Ste. 40, Brisbane, CA 94005, USA. Periodical-class postage paid at Brisbane, CA, and at additional mailing offices. Newsstand distribution is handled by Curtis Circulation Co. Basic subscription rates: one year (12 issues + 12 CD-ROMs) U.S. $39.90, Canada $43.95, U.S. prepaid funds only. Canadian price includes postage and GST 128220688. IPM 0962392. Outside the U.S. and Canada, price is $53.95, U.S. prepaid funds only. POSTMASTER: Send address changes to *MacAddict*, P.O. Box 5126, Harlan, IA 51593-0626. Future Network USA also publishes *Maximum PC, PC Gamer, Official Xbox Magazine, and PSM.*

Entire contents copyright 2005, Future Network USA. All rights reserved. Reproduction in whole or in part is prohibited. Future Network USA is not affiliated with the companies or products covered in *MacAddict*.
Ride-Along enclosure in the following edition(s): A2, B, B1, B2, B3. PRODUCED IN THE UNITED STATES OF AMERICA. Publications Mail Agreement #40043631. Returns: 4960-2 Walker Road, Windsor ON N9A 6J3

Wanted: Control Freaks!

DiskStudio™ allows you to create and remove disk partitions on the fly! Want to create a new partition for games or photos? No problem. Want to get rid of that old OS 9 partition without backing up and reformatting your drive? It's easy.

PodLock™ is a new utility that lets you do cool new stuff with your iPod. Optimize the data on your iPod so it works faster. You can also create a secret drive within your iPod that allows you to keep sensitive data away from prying eyes. And much more!



Micromat is dedicated to bringing you cool and useful utilities for your Macintosh and iPod. Our flagship product, TechTool® Pro, has helped thousands of Macintosh users keep their Macs running at their absolute best. TechTool Pro can even recover lost data and resurrect faulty disk drives. Learn more about Micromat products by visiting our website.

Micromat Inc. 800-829-6227 707-566-3831 info@micromat.com www.micromat.com

©2005 Micromat, Inc. All rights reserved. DiskStudio, PodLock and TechTool are trademarks of Micromat, Inc.

Doing the Numbers

Marketing types rarely understate a product's capabilities. And so it was with some puzzlement that I read an ad for the 1GB iPod shuffle's random-play feature, which stated, "240 songs. A million possibilities." Now, I'm no math wiz, but I do know that 240 songs could most definitely be played in more than a million different sequences.

"But how many more?" I wondered. So I fired up my copy of Wolfram Research's Mathematica (●●●●○ Apr/05, p47), entered the appropriate query—and stared goggle-eyed at the answer: The number of different orders in which you can play 240 songs is 4,067,885,363,647,058,120,493,575,921,486,885,310,172,051,259,182,827,146,069,755,969,081,486,918,925,585,104,009,100,729,728,348,522,923,820,890,245,870,098,659,147,156,051,905,732,563,147,381,599,098,459,244,752,463,027,688,115,705,371,704,628,286,326,621,238,456,543,307,267,608,612,545,168,337,779,669,138,759,451,760,395,968,217,423,617,954,330,737,034,164,596,496,963,986,817,722,252,221,059,768,080,852,489,940,995,605,579,171,999,666,916,004,042,965,293,896,799,800,598,079,985,264,195,119,506,681,577,622,056,215,044,851,618,236,292,136,960,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000. We'll call that a bit over "a million possibilities."

Just how big is this number (which, by the way, most sentient beings round off to the number 4 followed by 468 zeros—science-types write that as $4x10^{468}$)? Well, some theorists opine that all matter will decay after the universe turns 10^{35} years old, so if you played your iPod shuffle continuously until you went through all the possible combinations of 240 four-minute songs, you'd have to play them for $7.4x10^{430}$ life cycles of the universe. Better get started.

While in math mode, I decided to delve into a few more Apple-related stats. In early March, the iTunes Music Store sold its 300 millionth song—it'd take you over 2,283 years to listen to them all, during which time a snail crawling at 0.013 meters per second could circumnavigate the Earth more than 23 times. The 10 millionth iPod was sold in mid-December 2004—laid end to end, all those iPods would reach almost from Atlanta to Philadelphia. Around 55 million people have visited Apple Stores worldwide—that's roughly the population of Spain, Greece, and Denmark combined.

Enjoy,

STAFF RANTS

Q. What's your favorite statistic?

Niko Coucouvanis BORN 20 MILLION MINUTES AGO
What's your favorite statistic?
My favorite is actually a meta-statistic: the fact that marketing greed-weasels can twist numbers and hard data into pretty much whatever bottom line they want—such as the relationship between market share by revenue and by actual number of units sold. And no, I'm not talking about the iPod. OK, I am.

Mark Rosenthal DR. ANIMALS
What's your favorite statistic?
Ratio of nuts buried by squirrels but never recovered to those buried and recovered—80:1.

Sean Molloy MATHEMAGICIAN
What's your favorite statistic?
It's a tie between two useless stats I actually heard TV news reporters use to express shocking hugeness: either how many postage stamps you can fit on an IMAX screen, or how long it would take Niagara Falls to fill the dome of some new sports stadium if you turned that dome upside down.

Peter Marshutz PETER REPEATER
What's your favorite statistic?
My favorite statistic is the recently revised average life expectancy for American males. We now have 77 years to live—that's 28,105 days, 674,520 hours, or 40,471,200 minutes.

Jake Widman ONE OUT OF FIVE EDITORS
What's your favorite statistic?
The utterly useless stats that are offered during sports broadcasts. "The team's gone 18-34 with him in the lineup, 9-17 with him hurt," or "He bats 0.254 left-handed, 0.263 right." 93.6 percent of the time, they tell you nothing.

Roman Loyola BELLY ITCHER
What's your favorite statistic?
Springtime. Statistics. Naturally, baseball comes to mind. Hall of Famer Dennis Eckersley's 1990 season as a closer was amazing: 48 saves, 73 strikeouts in 73.3 innings, a 0.61 ERA, and he walked only four batters. Plus, he had one of the greatest mullets of all time—and there's no way to quantify that.

Max PARISIANIAC
What's your favorite statistic?
Over 2,400,000 copies of *MacAddict* are printed each year—that's more than enough copies for each and every resident of Paris, France; Paris, Arkansas; Paris, Idaho; Paris, Kentucky; Paris, Michigan; Paris, Mississippi; Paris, Missouri; Paris, Ohio; Paris, Tennessee; Paris, Texas; and Paris, Virginia.

comingsoon:june2005

Here's what our editors are preparing for the next issue of *MacAddict*.

We'll teach you how to **improve your photographs** with iPhoto 5's new tools—and tell you when it's time to turn to Adobe Photoshop and its plethora of plug-ins. We'll show you how to **set up your Mac for your kids' summer vacation,** and **explain all optical-disc formats**, including CD-R, DVD+ and DVD–, and archival discs. We'll plug an IR transmitter into a Mac to **create the ultimate universal remote**, soup up our wireless network with **homebrew Wi-Fi antennae**, and share our favorite **PowerBook travel tips**. Finally, we'll take a look at the **Sonos Digital Music System, Adobe Acrobat 7.0,** Aspyr's **Doom 3**, and a whole lot more.

MFC-5840cn
COLOR
FLATBED
MFC
About $199

Print, Copy, Scan, Fax... and you thought you couldn't get any more out of your Mac.

Introducing output and imaging solutions as innovative as you are.

If you're ready to get more out of your Mac®—not to mention your day—Brother Printer and Multi-Function Center® products are ready to help. With Brother laser printers, you'll be happy to know we have a full range of monochrome or color laser models. Whether your needs are for a simple desktop or a network-ready model, each one will give you fast output and quality to make your best work even better.

Our Multi-Function Center® models deliver the ultimate in printing, copying, scanning, and faxing in one compact design. If you are looking for a color inkjet model that can print from digital camera media at up to 6000 x 1200 dpi*, or a monochrome laser model with print speeds up to 21ppm... Brother has it.

So no matter what kind of Mac® is in front of you, make sure you have a Brother printer or MFC at your side.

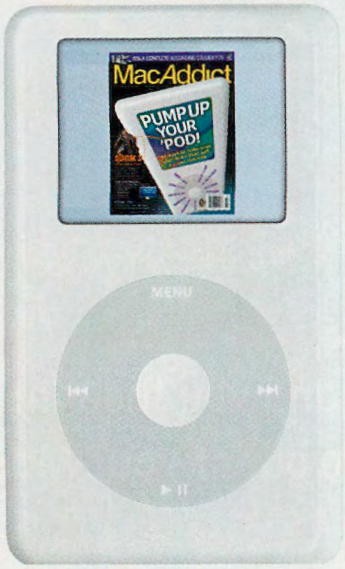
A variety of MODELS AVAILABLE AT: MacWarehouse, MacMall, MacConnection, MacZone, Microcenter, CDW, Office Depot, Staples, OfficeMax, Fry's, J&R Computer World, and Apple Stores (or www.store.apple.com) and other fine resellers.

At your side.™

brother®

© 2005 Brother International Corporation, Bridgewater, NJ • Brother Industries Ltd., Nagoya, Japan
* Resolution is listed as vertical by horizontal • All registered trademarks herein belong to their respective companies. For more information please visit our Web site at www.brother.com

iPODS FOR EV



The World's Greatest Music Players Form a United Front Against All Competition.

When Apple announced its new iPod lineup in late February, the company made it clear to its competitors that it had no intention of relinquishing any segment of its commanding lead in the digital-music-player biz—and also made it clear to all us Mac addicts that there's no reason to even think of buying a player that's not an iPod. From $99 to $449, Apple's got us all covered.

iPOD SHUFFLE

There's not much new to report about the iPod shuffle (●●●●● Apr/05, p39). The wee white 0.78-ounce shuffle still comes in two flavors: the 512MB base model ($99) and the twice-as-capacious 1GB model ($149)—no price changes, no changes in features or functions. The only new ponderable is why would you not want to plunk down an extra fifty bucks for a 4GB iPod mini ($199). Unless, of course, you're a marathoner who needs the ultimate in skip protection and for whom each and every ounce counts. Or, for that matter, if you're the owner of a hard drive–based iPod who wants a second 'Pod for when you're out and about—or, if you happen to live in Saskatchewan, for when you're oot and aboot.

iPOD MINI

We thought that the original iPod mini was a bit too pricey for mass acceptance when it appeared in January 2004 at a relatively hefty $249. We were wrong. Style-conscious music lovers snapped up millions of the petite multicolored beauties. Now the 4GB iPod mini has slipped beneath the magic $200 barrier, and a 6GB bigger brother ($249) has joined it. Sister, actually, if Apple's new iPod mini marketing materials are any gauge of their targeted buyers—Apple's Web site touts the mini's vastly improved 18-hour battery life (the original mini was rated at 8 hours) as

What's Another Fifty Bucks?

It now costs $50 per notch to climb Apple's iPod ladder from the 120-song 512MB iPod shuffle to the 15,000-song 60GB iPod photo. Well, sure, the last step up is a hundred bucks, but you get the picture—there's now an iPod for every economic strata.

Price	Model	Capacity	Songs	Battery Life
$99	iPod shuffle	512MB	120	12 hours
+$50				
$149	iPod shuffle	1GB	240	12 hours
+$50				
$199	iPod mini	4GB	1,000	18 hours
+$50				
$249	iPod mini	6GB	1,500	18 hours
+$50				
$299	iPod	20GB	5,000	12 hours
+$50				
$349	iPod photo	30GB	7,500	15 hours
+$100				
$449	iPod photo	60GB	15,000	15 hours

IMAGES COURTESY OF APPLE

ERYONE!

being sufficient for "a transatlantic flight, the limo ride to your hotel, and a few solid hours of boutique shopping," coos that it "goes with everything: Macs, PCs, sequins, and tees," and refers to its aluminum matte-finish case as sturdy enough to survive "the jostle of overzealous paparazzi."

The mini now comes in four colors: silver, and punched-up versions of the original pink, blue, and green—if you own an original gold mini, you now have a collector's item. In another nod to fashion, the clickwheel icons now match the case color—gray is so passé. Stylin' new armbands are available in gray, orange, yellow, blue, and pink—but unless your taste runs to the aforementioned passé gray, you'll need to purchase your armband at Apple's online store. A new mini lanyard is also available for $19.

Not all the news is good, however. Although both minis ship with—and sync and charge over—a USB 2.0 cable, a FireWire cable is now a $19 option; so is a $39 iPod mini Dock.

iPOD CLASSIC

No, that's not what Apple calls it; that's just what we call it here in the MacAddict Intergalactic Nerve Center. The no-surname iPod now comes in only one lonely model: a 20GB version for $299. Although both USB 2.0 and FireWire cables are included, you have to pay $39 extra for a Dock.

It's not strictly correct to call the 20GB iPod the only classic 'Pod still available. As of press time, Apple was still offering the $349 iPod U2 Special Edition; the extra fifty bucks buys you a sleek black case, red clickwheel, and $50 off *The Complete U2* digital box set of 400 U2 tunes—UTunes?—available from the iTunes Music Store for $149. Personally, we're waiting for the iPod 50 Cent Special Edition with faux bullet holes on its case.

iPOD PHOTO

When we reviewed the iPod photo (●●●●○ Jan/05, p34), we had two major beefs: Its two-inch screen was too small for effective image viewing, and there was no way to download photos to it directly from a digital camera—you had to put your photos into iPhoto and then politely ask iTunes to convert them and transfer them to your 'Pod. Well, the kind folks at Apple have answered one of our complaints with a new iPod Camera Connector (more on that in a bit), but they've kept the iPod photo's squintalicious two-inch color LCD—which, it must be admitted, is a vast improvement over the classic 'Pod's monochrome display. As if by way of apology, Apple has lowered the price of the 60GB model a full 25 percent, from $599 to $449. We accept the apology.

The 40GB iPod photo ($499) has been sent packing; its replacement is a slim (0.63-inch) 30GB model that comes in at a cool $349. The bad news? If you want to equip either model with a Dock, the iPod photo Dock Kit will cost you another $39. Want to connect either to a TV? You'll need the optional $19 iPod photo AV Cable. Both were included with the original iPod photo, making the price drop a bit less impressive.

But, as we said, we're in a forgiving mood—and the reason is the iPod Camera Connector we mentioned before. Set to ship by the time you read this, the $29 Camera Connector lets you connect your iPod photo to your digital camera and download photos directly from your camera into your 'Pod. You'll then be able to view the photos individually or in a slide show, and then upload the originals into iPhoto when you're back at your Mac. OK, so the iPod photo should have had this capability from the beginning, and we'd prefer it to be built into the 'Pod and not a $29 option, but it's still a welcome addition to the flagship of Apple's more-affordable iPod line.—*Rik Myslewski*

NEW STUFF

▸ REBEL SWELL

Canon EOS Digital Rebel XT

$999 (with lens),
$899 (body only)
www.canon.com
Available: Now

Its cause? Fast, fine-lookin' pics.

Nikon's latest digital SLR camera doesn't replace the EOS Digital Rebel (●●●●○ Mar/04, p48)—it fills the quality slot above it. The Rebel XT is smaller, lighter, and faster than its predecessor, and it features an 8-megapixel CMOS sensor and Canon's speedy DIGIC II image-signal processor. Oakland Raiders fans rejoice: You can choose between either a silver or black body.

IMAGE COURTESY OF CANON

▸ SMART STORAGE CONTROL

ProSoft Drive Genius

$99
www.prosofteng.com
Available: Now

An organized utility for your disk in disarray.

Your hard drive needs some tender lovin' care, and Drive Genius just might be the proper caretaker. This set of hard drive utilities includes an optimizer, a disk tester and analyzer, a volume rebuilder, benchmark tools, and more—and they're all accessible through a friendly interface. Drive Genius can also securely wipe out data using standards set by the Department of Defense.

▸ WATCH OUT, WACOM

Adesso CyberTablet 12000

$169
www.adesso.com
Available: Now

We haven't seen the previous 11,999 versions.

This 12-by-9-inch tablet comes with a mouse and pressure-sensitive pen—both wireless—for use with image editing and illustration apps. The pen has two buttons and 512 gradations of pressure sensitivity, and the two-button mouse can be used by lefties or righties.

IMAGE COURTESY OF ADESSO

DROOLWORTHY

Sexy Stuff We Can't Wait to Get Our Mitts On

Ball and Refrain→

IMAGE COURTESY OF BLUE MICROPHONES

Blue Microphones' **Snowball** ($139, www.bluemic.com) is a USB microphone designed for professional recording. It has three recording capsules: one for vocals, one for instruments, and a third for combined vocal and instrument recordings. Snowball can be used with any recording app, including GarageBand and Logic Pro.

←Everybody PØ1k@!

IMAGE COURTESY OF ROLAND

Roland takes polka into the digital age with the **FR-7 V-Accordion** ($6,499, www.rolandus.com). Roland's Physical Behavior Modeling supports 30 different virtual accordion timbres—Italian Jazz, German Folk, historic Bandoneon, and more—plus 29 orchestral sounds. The FR-7 includes a pair of neodymium woofers and tweeters, an onboard digital amplifier, and a rechargeable NiMH battery pack.

Who's afraid of the punk-ass wolf? Not this bunny.

PAWS OF FURY

▸ In **Lugaru**, Turner the ninja rabbit is on a quest to avenge his family. To save his kind from slavery, he uses his paws, knives, swords, staffs, and stealth to defeat corrupt fellow rabbits and their allies, the wolves. This unique 3D fighting game relies less on button combos and more on countering your enemies' attacks.—*Matt Osborn*

ON THE DISC
Lugaru 1.01

Lugaru	
Price	Free (demo), $19.95 (full version)
Available	Now

Wolfire Software
www.wolfire.com/lugaru.html

MEN OF VALOR DOA

▸ Aspyr Media announced that they have cancelled the Vietnam-era first-person shooter, **Men of Valor.** According to a company statement, "The decision to remove the title from Aspyr's calendar was a result of several different factors and much deliberation." One of the factors may have been the increase in cost for the online-multiplayer management system hosted by GameSpy, reported here in *Game News* (Mar/05, p13).—*MO*

Men of Valor	
Price	It's dead, Jim!
Available	Never!

Aspyr Media
www.aspyr.com

HALO IN UT2004? SIGN US UP!

▸ Have **Unreal Tournament 2004** and can't get enough Halo? Project Torland has released a full-scale total-conversion mod aimed at cramming as much content from the original Halo as possible into the UT2004 engine. Play as the Covenant or the Flood while driving Warthogs and Ghosts, each with new configurations.—*MO*

Project Torland	
Price	Free
Available	Now

Project Torland
http://torlan.forerunners.org

FREE FRAGGIN' IS GOOD FRAGGIN'

▸ **Nexuiz** is a free 3D deathmatch game based on Darkplaces, an advanced Quake 1 engine. The game features curved surfaces, bump mapping, real-time shadows, and 64-player support with over 30 characters to choose from. The development team's goal is to bring deathmatch back to the basics, which they see as well-balanced weapons and fast-paced action.—*MO*

Nexuiz	
Price	Free
Available	When it's ready

Nexuiz
www.nexuiz.com

GAME REVIEWS

TIPS & TRICKS: COMMAND & CONQUER: GENERALS ZERO HOUR

The **Command & Conquer: Generals** (●●●●○ Jul/04, p58) expansion pack, **Zero Hour**, has you fighting the world's most elite commanders for battlefield domination. Here are a couple of tips to keep you from getting owned.—*MO*

BEWARE THE TUNNEL RUSH A Tunnel Rush is when a player builds tunnels right away for an early sneak attack. You won't be able to see an enemy's tunnel until they are coming out of your floorboards. Be especially careful when playing against Prince Kassad—he has this ability instantly. Dragon Tanks and Scout Drones are effective counters, but building your own tunnels works, too.

PICK A POTENT GENERAL Team up with Tsing Shi Tao, The China Nuke General, and Anvil Fai, The China Infantry General—they make highly effective use of the resources available to them. Alexis Alexandra, The USA Super Weapon General, and Dr. Thrax, The GLA Toxin General, have weak defenses and the worst offenses.

NAPSTER TAKES ON iTUNES

iPods make this kitty scowl.

Napster (www.napster.com) is taking on Apple's iTunes Music Store and iPod by offering a $14.95 subscription-based online music service. Napster claims it's a better value, which can be true—as long as you don't want to use an iPod or Mac and don't want to actually own anything. Here's the lowdown.

iPod ignored. Before we get to Napster's pricing, know this: You can't use the iPod, iPod mini, or iPod shuffle with Napster. Here's something else: Napster isn't Mac compatible. If this instantly eliminates Napster as a choice for you, skip the rest of this article. Or keep reading—you might need rhetorical fodder for the next time you're at a gathering and some blowhole spouts off about subscription-based services versus the iTunes Music Store.

Forever linked. Napster's subscription service lets you download an unlimited number of songs, which is a good way to try an album with little consequence. But every month, Napster reauthorizes your music, and if you cancel your service, your music won't play. If you don't care about owning your music, then this might be no big whoop.

CD conundrum. No iPod or Mac support? How about burning Napster songs to a CD, then importing them into iTunes on your Mac? It's possible, but you have to pay an extra fee on top of the $14.95 per month—the subscription service is for playing music on your MP3 player or PC only. The fee (which happens to be 99 cents per song, but discounts are available) gives you a version of the song that you can burn onto a CD. That's one advantage: You can try before you buy, and then buy only the songs you want.—*Roman Loyola*

BUG OF THE MONTH

MacFixIt™
Troubleshooting Solutions for the Macintosh

SICKLY SOFTWARE UPDATE

Sometimes Mac OS X's Software Update doesn't display the appropriate updates, or it fails to properly apply updates that have been successfully downloaded (in the latter scenario, you may get a permissions error referring to the /tmp/501/TemporaryItems/com.apple.SoftwareUpdate directory). Here are a few things you can try if you encounter one of these problems.

REPAIR PERMISSIONS Try using Apple's Disk Utility (located in /Applications/Utilities) to repair permissions. This often works all by itself.

DON'T MOVE APPS If you moved an Apple app from its original location inside the Applications folder, Software Update may not be able to locate it. Leave Apple-installed applications where they are originally installed.

DELETE RECEIPTS In some cases, the issue can be resolved by deleting one or more files in the Library folder. Try deleting the receipts that correspond to the application or Mac OS X version you are attempting to update (files such as iPhotoUpdate403.pkg or MacOSXUpdate10.3.8.pkg). The receipts are located in /Library/Receipts and appear with a .pkg extension.

SWING THE BAT TOOL Use BatChmod (on the Disc, or download from http://macchampion.com/arbysoft) to modify permissions for the /tmp/501 directory:

1. In the Finder, press Command-F. In the first search field, type 501 (or whatever number is identified in the message). Press the plus sign to add a second search criterion, and then select Visibility in the first menu and Visible And Invisible Items in the second menu. Click Search.
2. In the Search Results window, click and drag the 501 folder onto the BatChmod icon. In BatChmod, select Apply Ownership And Privileges, and click Apply.

ON THE DISC
BatChmod 1.34

TRY AGAIN Wait a few minutes. Sometimes this just works.

What's New

MUSICAL INSTRUMENTS

Gibson unveiled the **Gibson Digital Guitar** (www.gibsondigital.com), a Les Paul–style guitar that can pick up string motion, send it to a digital converter, and then transmit the signal from the guitar to a breakout box via Ethernet. Brian Moore Guitars announced the **iGuitar.USB** (www.brianmooreguitars.com), a guitar that connects to your Mac via USB to directly interface with GarageBand, Logic Pro, or Pro Tools. (Could a digital air guitar be next?) Fender's **G-DEC** ($359.99, www.fender.com) is a practice amp for guitarists; it has a MIDI synthesizer, 17 amp types, 29 effects, and 10 reverbs.

Put your personal touch on your tunes—literally.

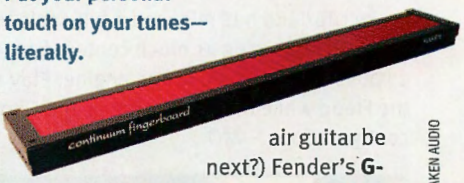


IMAGE COURTESY OF HAKEN AUDIO

Haken Audio's **Continuum Fingerboard** (pictured; $5,290 full size, $3,390 half size, www.hakenaudio.com) is a FireWire MIDI controller with a keyboard-like playing surface that allows you to use finger movements to dynamically control the sound. Think of **The Musicpole** (www.themusicpole.com) as a keyboard wrapped around a pole. You play this MIDI controller by stroking and spinning the pole in your hands (get your mind out of the gutter!) while wearing special thumb pads.

Steinberg unveiled **Virtual Bassist** ($249.99, www.steinberg.de). It has a collection of samples from 25 different music styles and features GrooveMatch, which syncs the bass line to an existing drum line. Steinberg also has **Groove Agent 2** ($249.99), with 27 new drum styles and nine new drum kits. East West/Quantum Leap's **Symphonic Orchestra** ($995, www.soundsonline.com) is a 24-bit choir-sample library with a utility that lets you type words you want the choir to sing.—*Michelle Victoria*

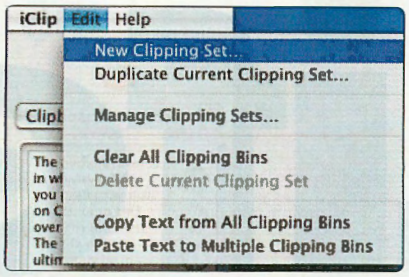
SHAREWARE PICK OF THE MONTH

iClip http://inventive.us $19.95

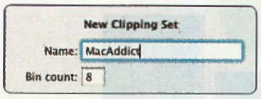
ON THE DISC
iClip 3.5.2

Your Command, C, and V keys are probably worn to the nubbins from years of copying and pasting. iClip minimizes the repetitive nature of this practice by letting you store clippings. It even remembers your most recent clippings.—*Andrew Tokuda*

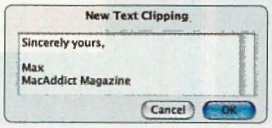
❶ Each time you copy data, it's stored automatically in iClip's Clipboard Recorder.



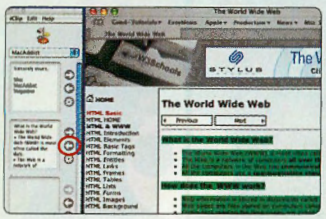
❷ For more permanent storage of common clippings, create a new Clipping Set by selecting New Clipping Set from iClip's Edit menu.



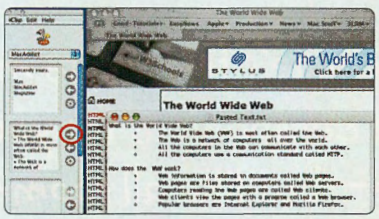
❸ Name your Clipping Set.



❹ Store common text, such as email signatures, by clicking on an empty bin, then typing away.



❺ Need a faster way to copy and store data? Select your data in whatever application you're in, then click the copy icon (the arrow that points to your bin).



❻ To paste the clipping data into an application like TextEdit, click on the paste icon (the arrow that points away from your bin).

iPOD CASE OF THE MONTH

You might call it a Muppet pelt or a punk-rock Tribble (we did both), but you'll certainly call HotRomz' **Tactile iPod Cases** ($16.95 for iPod mini, $19.95 for iPod; www.hotromz.com) unique. These handmade fur-balls are colorful, fuzzy, and flashy cases similar to Apple's own iPod Socks. In *Gilligan's Island*–speak, the Tactile iPod is Ginger, and the iPod Sock is Mary Ann.

Pictured here is the Pink Devil, a celebratory coterie of pink shag and rainbow-hued fuzzy bits. Other Tactile cases include the Little Green Monster, a hairy green case; the Hedonist, made of blue mohair and metallic silver thread; and Birds of a Feather, graced with red, white, and pink faux feathers. All of the Tactile cases are hand washable and can be air dried.

If sock-like cases aren't your thing, HotRomz also makes iPod Tattoos ($3.99) that overlay your iPod.—*Michelle Victoria*

PHOTOGRAPH BY MARK MADEO

SUBMIT YOUR CASE Whether your iPod case is a custom-made one-off or a mass-produced product, you can submit it for Case-of-the-Month consideration—just send it to iPod Case of the Month, *MacAddict*, 150 North Hill Dr., Ste. 40, Brisbane, CA 94005. Please note that we cannot return cases.

BookReviews

IMAGES COURTESY OF O'REILLY AND APRESS

APPLESCRIPT: A Comprehensive Guide to Scripting and Automation on Mac OS X

APPLESCRIPT: The Missing Manual

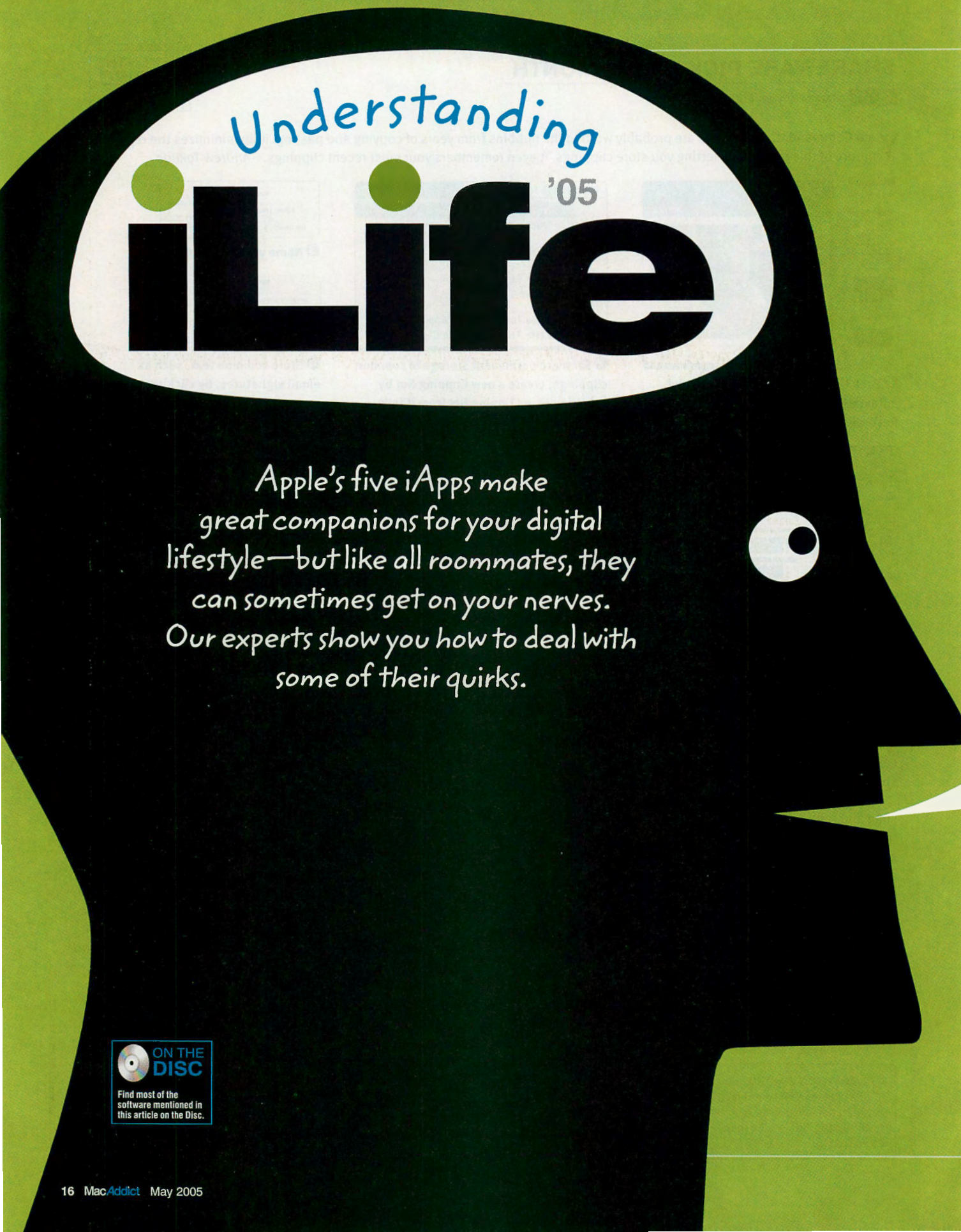
When it comes to AppleScript, it's helpful to have a couple of reference books handy. That's why we like both *AppleScript: The Missing Manual* ($24.95, www.oreilly.com) and *AppleScript: A Comprehensive Guide to Scripting and Automation on Mac OS X* ($59.99, www.friendsofed.com).

AppleScript: The Missing Manual was written by teenager Adam Goldstein, who also worked on *Mac OS X: The Missing Manual* and *Mac OS X Power Hound*. Goldstein's new book is a great way to introduce yourself to AppleScript, and it also serves as a good quick reference.

But if you want to be an AppleScript power coder, you'll need to dive deep into the technicalities. That's where Hanaan Rosenthal's *Comprehensive Guide* comes in. Useful to both beginners and experts, this 900-page paean to AppleScript includes tons of sample scripts.—*Roman Loyola*

Understanding iLife '05

Apple's five iApps make great companions for your digital lifestyle—but like all roommates, they can sometimes get on your nerves. Our experts show you how to deal with some of their quirks.



ON THE DISC

Find most of the software mentioned in this article on the Disc.

iTunes iMovie HD iPhoto 5 iDVD 5 GarageBand 2

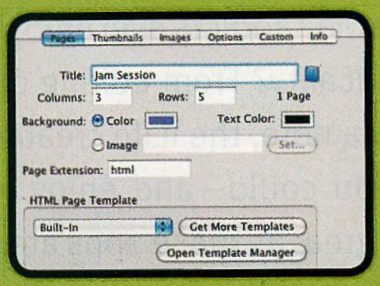
When have Mac addicts ever enjoyed such great ways to combine fun and practicality? From editing movies to making music without having to play a note, the iLife creativity suite helps you do things you didn't know you could—and enjoy yourself while doing them. ¶But let's face it, as great as these apps are, they don't always work like they're supposed to. And even when they do, they can't do everything you want them to. Frustrating, ain't it? ¶We've gathered a group of iLife experts to answer some of your most common "How can I fix...?" and "Why can't I do...?" questions. In addition, they share their favorite tips and tell you the first steps you should take to resuscitate an apparently sick or dying app. Read on—your iLife's about to get a lot better.

by Shelly Brisbin, Brad Miser, Andrew Tokuda, and Johnathon Williams

iPHOTO 5

Q I use the Export To HTML feature to post image galleries to my Web site, but its output options are limited. Is there a way to adjust the appearance and layout of photo pages short of editing the finished HTML?

A Another problem, another plug-in. BetterHTMLExport (on the Disc, or download from www.droolingcat.com/software/betterhtmlexport) offers the same basic functionality as iPhoto's built-in Web-page export, but it throws in a truckload of additional controls and options. Post full-size images, fine-tune your HTML code, create and save your own custom page templates—the list goes on. Once installed, BetterHTMLExport appears as a tab labeled Better Web Page in the Export dialog.



BetterHTMLExport is shareware (registration costs $20), and versions for both iPhoto 4 and 5 are available.

With BetterHTMLExport, you can expand iPhoto's Web-page-design options.

Q I don't have a .Mac account, but I still want to post my pictures online. Can I use any other photo-sharing services with iPhoto?

A You sure can. Several plug-ins extend iPhoto's export ability for exactly this purpose. Our favorite is FlickrExport (on the Disc, or download from www.speirs.org/flickrexport), a freeware utility that uploads selected photos directly to your Flickr account. It's compatible with both iPhoto 4 and iPhoto 5.

Once installed, FlickrExport appears as an additional tab in iPhoto's Export dialog (Share › Export). You can resize, set titles, and assign Flickr content tags before uploading. There are other free plug-ins that serve the same purpose:

- PhotoToTypePad (on the Disc, or download from www.daikini.com/products/photototypepad) lets you upload finished photo galleries to your TypePad account.
- Photon (on the Disc, or download from www.daikini.com/photon) lets you export photos directly to your Movable Type, TypePad, Blojsom, or WordPress blog.
- iPhotoToGallery (http://zwily.com/iphoto) lets you upload photos to any Gallery-powered photo page.

FlickrExport is one of several iPhoto plug-ins that let you use photo-sharing services other than .Mac.

Q I tried to improve one of my photos but ended up ruining it. Is there some way I can start over?

A When you modify a photo, iPhoto automatically archives the original in a separate folder called—creatively enough—Originals. In both iPhoto 4 and 5, you can get the original back by highlighting the photo and choosing Photos › Revert To Original.

We like the insurance, but some iPhoto users complain about the extra files on their hard drives. To get rid of them, use iPhoto Diet (on the Disc, or download from http://pages.cpsc.ucalgary.ca/~fuhrer/personal/freestuff/iphotodiet), which scans your library and deletes originals and other duplicates.

But be warned: Once your Originals are gone, they're gone forever—unless they're still in your camera or on a backup CD. (iPhoto 5 users should see "Johnathon's Top iPhoto Tip," p19, for additional information about RAW support.)

iPhoto Diet removes duplicate images from your hard disk—permanently.

Q My pictures look fuzzy in iPhoto, but they're nice and sharp in other applications such as Photoshop Elements. Why is this?

A Your pictures look slightly blurry because of the way iPhoto renders them. (/Applications/Preview does the same thing.) To see a photo in its full, sharpened glory, open it in iPhoto's Edit pane and click any one of the adjustment sliders. You don't need to move the slider—just clicking it is enough.

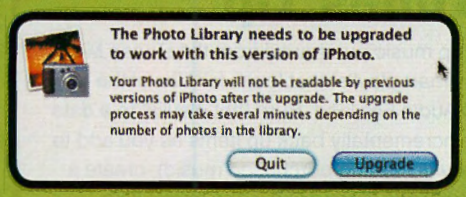
Q My iPhoto library is bursting at the seams. Is there a way to move it to a different disk?

A The process of moving your library isn't intuitive, but it is easy. Quit iPhoto and drag your library folder to its new location. Then relaunch iPhoto; the app will ask you to either find your missing library or create a new one. Click Find Library, select the folder's new location, and you're done.

Q I want to upgrade from iPhoto 4 to 5, but I'm worried about the safety of my humongous photo collection. What should I know before I take the plunge?

A Any upgrade is always a risk—but things get a bit more worrisome when your entire precious photo collection is at stake. For a worry-free upgrade, first make a complete backup of your photo library. Then rebuild your library by holding down Option-Shift as iPhoto launches.

When that's complete, install iPhoto 5, but don't launch it. First, run Software Update and install the iPhoto update from Apple. (If you don't see an update, then your iLife disc must have included the latest version.) When the update is installed, you're ready to go.



There's no going back when you upgrade your iPhoto Library, so be sure to back it up first.

Q My wife and I each have extensive photo collections on separate Macs, but now we'd like to keep all of our pictures on a single machine. Is there a way to easily and safely consolidate our collections?

A The fastest and most reliable way is to open iPhoto on the Mac you want to move your pictures from and export your entire library as full-size originals to an external hard drive. Then plug the drive into the Mac where the consolidated collection will live and use iPhoto to import all of the photos. You will lose the album and roll information, but all of your pictures will be preserved.

If you don't have an external hard drive, you can use the same technique to transfer photos between two FireWire-capable Macs. Export the first Mac's photos to a folder on its desktop, connect the two machines with a FireWire cable, and reboot the first Mac while holding the T key—that will make it start up in FireWire Target Disk Mode, effectively transforming it into an external hard drive as far as the other Mac is concerned.

A more time-consuming method, but one which would preserve your album and roll info, is to burn all of the first Mac's albums onto a CD-R/W or DVD-R from within iPhoto. Then, insert the disc into your target Mac, go to iPhoto, and drag each album from the CD to your library. If you use this method, be sure both Macs are running the same version of iPhoto.

Johnathon's Top iPhoto Tip

Back up your photos. Yeah, we know, you were expecting something more profound, but this is the most practical advice we can give. Most of the time, iPhoto works so well that you forget how fragile your photo data is. In the meantime, your priceless photo collection is growing by the gigabyte.

Backing up is always a bit of a hassle, but it's far better than the alternative. Trust us, you don't want to have to explain to your spouse where your kid's baby pictures went.

Q Apple's making a big deal about iPhoto's new RAW support. What's it good for?

A iPhoto 5's RAW support is nice for storing, organizing, and previewing RAW images, but it's pretty useless for editing them. The problem is that when you add a RAW image to your library, iPhoto immediately generates a JPEG for you to work with and places the RAW image in the Originals folder. This keeps iPhoto nice and snappy (RAW images are processor hogs), and it makes these images available in a format that's easy to share, but it defeats the entire purpose of RAW, which is to preserve all of the image data recorded by your camera.

To edit a RAW image in its native format, export it to your hard drive using the Original setting. (Opening a RAW image in an external editor from within iPhoto will only open the JPEG.) Then you can use your favorite RAW-ready editor (Photoshop or Photoshop Elements, for example) to take care of business.

If you're planning on using iPhoto Diet to delete Originals, remember that this will delete all of your RAW images, leaving only the JPEGs that were generated on import. Be careful.

—Johnathon Williams

iPhoto CPR

iPhoto crashing on launch? Running too slow? Try these steps to get it back in the pink:

1. **RESTART YOUR MAC** Sometimes this is all it takes.
2. **REBUILD YOUR LIBRARY** The most common source of trouble is an error in iPhoto's data files. Hold down Option-Shift while launching iPhoto, click Yes when asked if you want to rebuild your library, and iPhoto will copy your data into a new library, removing errors in the process. Note: If you have a lot of photos, this process can take an hour or more. If iPhoto isn't its old reliable, snappy self when you're done, repeat the process—it may take a few passes to correct some errors.
3. **BUILD A NEW LIBRARY** If the rebuild fails, then it's time to start over. First, get iPhoto Extractor (on the Disc, or download from http://homepage.mac.com/butlers/iPhotoExtractor). This neat little bit of freeware will separate your photos from the junk in iPhoto's library structure and put them in a Pictures folder. When Extractor is finished, move your iPhoto Library folder out of Pictures > iPhoto, launch iPhoto, and click Create Library to make a new, undamaged library. Finally, import the Pictures folder into your new library. You'll lose your album and roll information, but you'll have your photos—and a better-behaved iPhoto.

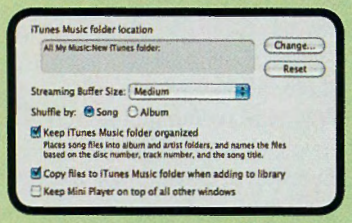
iTunes

Q I recently sold an old Mac that had one of the five authorizations for the songs I've bought from the iTunes Music Store. How do I get more authorizations for the new Mac I plan to buy?

A The only way to deauthorize a Mac you no longer own is to contact Apple Support, using the form at www.apple.com/support/itunes/authorization.html. Apple promises you'll have an answer within 72 hours.

Q I've been collecting music for a while now, and I bought an external hard disk to hold it all. What's the best way to move my library?

A Whether you want to move your library to an external drive or to a new Mac, take the time to do it right. First, create a folder for your music at the new location. Connect the external hard drive (or new Mac) to your current system via FireWire, then go to iTunes › Preferences. In the Advanced pane, click Change and locate the folder you just created. Click the Copy Files To iTunes Music Folder When Adding To Library check box, then click OK. When you close Preferences, the library information will update. Finally, choose Consolidate Library from the Advanced menu to copy your music files.



Making a new music folder and designating it as your official iTunes Music folder is the first step in properly moving your iTunes library.

Q My hard drive recently crashed and took a lot of my not-backed-up iTunes Music Store songs with it. Is there any way I can get them back without having to buy them all over again?

A Apple doesn't offer a way to retrieve purchased music—but you may be able to, just the same. First, be sure your hard drive is really and truly dead; a disk-recovery app such as Micromat's TechTool Pro 4 ($97.97, www.micromat.com), ProSoft's Data Rescue ($89, www.prosofteng.com), or Alsoft's DiskWarrior ($79.95, www.alsoft.com) may resuscitate it—and all three together will probably cost less than your lost music. A repair service like DriveSavers (www.drivesavers.com) may also be able to recover your precious tunes. Such services are expensive, though—it might be cheaper to just buy the music again.

If your lost songs are still on an iPod, download a shareware app such as iPod Access ($10, www.ipodaccess.com), and copy files from the 'Pod to your Mac. In iPod Access, search by kind for Protected AAC Audio Files, or just copy everything.

Shelly's Top iTunes Tip

To easily back up music purchased from the iTunes Music Store, create a smart playlist that looks for files of the Protected AAC Audio File kind. Burn that playlist to a data CD or DVD. To incrementally back up items as you add to the iTunes library (including purchased music), create a smart playlist that finds files added in the past *x* days.

Q I have audio books, recorded class notes, and podcasts in MP3 and standard AAC formats that I want to convert to bookmarkable AAC files so I can save my place. Is that possible?

A Sure. First, you need to convert the MP3s to standard AAC. Do this by opening each file in iTunes and choosing AAC from Import Preferences. Control-click the file you want to convert and choose Convert To AAC. Now you have a standard AAC file with the .m4a extension. To make the file bookmarkable, you need to change that extension to .m4b. The easiest way to do that is with Make Bookmarkable (on the Disc, or download from www.malcolmadams.com/itunes), a free AppleScript from the excellent Doug's AppleScripts for iTunes collection. Install the script as directed, then reopen iTunes and select the file you want to bookmark. From the new Script menu, choose Make Bookmarkable.—*Shelly Brisbin*

iTunes CPR

Problems you encounter when starting up iTunes usually have to do with library files, those all-important repositories of info about your music and playlists. Try these steps first:

1 **UNLOCK YOUR LIBRARY FILE** One day, you may come face-to-face with an error message saying that your iTunes library is locked or that you don't have write permissions for the file. To fix the problem, quit iTunes and open your /Music/iTunes folder. Drag the iTunes 4 Music Library file to the desktop. Reopen iTunes, which will now show an empty library. Choose File > Import, navigate to /Music/iTunes, and import the iTunes Music Library.xml file. Your library—minus any song files iTunes couldn't match with listings—will open.

2 **AVOID FREEZES** If you have a power-sucking iSight camera connected to your Mac, connecting or syncing an iPod via FireWire may freeze your Mac. To avoid the problem, simply disconnect the iSight before you connect your iPod.

iMovie HD

Q I recently shot a home movie indoors, and some of the scenes are really dark. The Brightness effect in iMovie HD didn't help much—is there anything else I can do in iMovie HD to improve the brightness?

A First, be sure your monitor is calibrated correctly using the Calibrate command in System Preferences › Display. This will give you a better sense of how dark the footage really is. Next, try a third-party plug-in. GeeThree's Slick Transitions and Effects Volume 6 ($70, www.geethree.com, or check out the Slick Sampler on the Disc) includes a color correction effect, as does Jerry Lawrence's Effects Pack 1 (www.cis.rit.edu/~jerry/Software/iMovie). Install these and experiment. Finally, view your movie on a TV monitor before finalizing your project—iMovie playback isn't always a reliable indicator of final results.

Q I have MPEG video files that were created on a Windows machine, and I can't get them to open in iMovie HD, even though the application supports MPEG. Is there a way to import Windows video into iMovie HD?

A iMovie HD can import MPEG-4 movie files, the kind that many still cameras create. It does not directly support other MPEG flavors, however, including MPEG-1, MPEG-2, or MPEG transport streams. You'll need to convert them with MPEG Streamclip (free, www.alfanet.it/squared5/mpegstreamclip.html) and the QuickTime 6 MPEG-2 Playback Component (included with Final Cut HD and DVD Studio Pro, or $20 from Apple) in order to use them in iMovie. Open your file in MPEG Streamclip and then export it as a DV file. If the file is longer than 9 minutes, 28 seconds, the movie will be divided into smaller files. When this (lengthy) process is complete, you can drag the DV files into iMovie as clips.

Use MPEG Streamclip to open an MPEG that iMovie HD can't read and export it as one iMovie can.

Q I'd like to use Magic iMovie to save some time. How do I get the most benefit from it?

A Magic iMovie automates the movie-making process by turning your footage into an iMovie project as you import it. It provides a title clip, makes separate video clips and scene transitions, and moves clips to the timeline. You can then edit the results in iMovie HD, unless you choose to have your Magic iMovie imported straight into iDVD. In that case, there's no opportunity to tweak the project, making the advice that follows even more important.

Because Magic iMovie imports *all* of your footage in the order it was taken, the most painless Magic iMovies are those without a lot of boring filler, badly shot material, or too many abrupt transitions. That makes Magic iMovie ideal for events that proceed in a set order and don't require much camera movement or editing, such as a school play or sporting event.

To get the most out of Magic iMovie's automated operation, plan your production very carefully—putting together a shot list will help. You can pause the recording while nothing is going on to avoid extraneous footage, but be aware that Magic iMovie will automatically create transitions at those breaks.

—Shelly Brisbin

iMovie HD CPR

Repairing permissions with Disk Utility (/Applications/Utilities) can solve many iMovie problems. Here are a few iMovie-specific tweaks that can help as well:

1. **TRASH PREFERENCES** Quit iMovie and delete iMovie preferences files from */user name*/Library/Preferences. If you've used previous versions, you'll find files like com.apple.imovie.plist. Trash 'em and relaunch.
2. **RESOLVE CONFLICTS** OS X's FileVault has been known to give iMovie fits. Try turning it off in the Security pane in System Preferences. Alternatively, you could store your iMovie files outside your home directory—the home directory is where FileVault does its thing.
3. **FIX OR REMOVE PLUG-INS** Try disabling the third-party plug-ins stored in */user name*/Library/iMovie/Plug-Ins. Remove that folder and launch iMovie. If all is well, add your plug-ins back one at a time to isolate the problem. You can also disable or remove Apple plug-ins and iMovie support files. Select the iMovieHD application and press Command-I. Click the Plug-Ins disclosure triangle and uncheck one or more plug-ins.

Shelly's Top iMovie HD Tip

Unlike previous versions, iMovie HD uses non-destructive editing: When you trim or split a clip, the cut footage is hidden but not deleted. If you copy the clip into a new project, all of the unwanted footage comes along with it.

So don't use copy and paste—instead, select the edited clip and choose Share from the File menu. In the QuickTime tab, click the Share Selected Clips Only checkbox and choose Full Quality. Now you can save the clip as a file and bring it into another iMovie project, take it to iDVD, or archive it on tape.

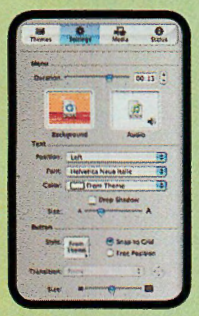
iDVD 5

Q My Mac doesn't have a SuperDrive. Can I use iDVD with a non-Apple DVD drive, such as an external DVD drive?

A As of version 5, iDVD is no longer tied to the SuperDrive—you can run the app on any Mac that meets iDVD's system requirements and burn DVDs using a third-party drive. You will, however, have to perform a custom install if you don't have a SuperDrive (the standard iLife installation looks for one). When you launch the program, you'll see a warning that you won't be able to burn a disc. Ignore the warning and create your project. When you're done, save it normally, and then choose File › Save As Disc Image. You'll get a disc image file with the .img extension; now you can use other applications that support third-party DVD burners to burn a DVD with that file. You can also use Mac OS X's Disk Utility to burn the disc image to DVD.

Q Apple's themes are nice enough, but I don't want my movies to look like everyone else's. Can I create custom themes and reuse them in other projects?

A You can create a custom theme by modifying an existing one. Choose Project › Show Customize Panel, and pick a theme. Go to the Settings pane and drag in a new background image, add your own music, change text properties, and so on. Click Save As Favorite, name your theme, and check Shared For All Users if you want everyone who uses your Mac to be able to use your theme. Uncheck Replace Existing if you want to keep the original theme. To use your new themes, open the Theme pane and choose Favorites from the pop-up menu.



You can customize an existing theme and save it so your project will express your unique personality.

Q When I burn a DVD, the soundtrack becomes unsynced from the video. What can I do?

A First, make sure your video camera captures 16-bit sound; 12-bit sound can cause the problem. Second, use Software Update to be sure you have the latest versions of the iLife applications and QuickTime. Third, make sure the hard disk on which the iDVD project is stored has plenty of free space (at least 5GB, preferably more). Fourth, quit all applications except iDVD while you burn a disc (it's also a good idea to make sure other users are logged out).

If these general guidelines don't help, you'll have to change the project itself. If you mixed different versions of the iLife applications (such as iMovie 4 with iDVD 5), recreate the movies in iMovie HD and replace the old versions in your iDVD 5 project. If your DVD has long movies, use iMovie HD to add chapter markers, or break the movies into shorter versions.

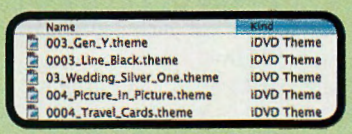
For a really drastic solution, you can try extracting the movie's audio in iMovie HD. Open the Timeline, choose Edit › Select All, and then choose Advanced › Extract Audio. Place the extracted audio in one of the sound tracks, and then mute the main sound track by deselecting its check box.

Brad's Top iDVD Tip

You can add iPhoto, iMovie, and iTunes files to the DVD-ROM part of an iDVD project without exporting them from their native applications. In iDVD, choose Advanced > Edit DVD-ROM Contents to open the DVD Contents window. In the iDVD Drawer, click the Media button to open the Media Browser. Choose the source of your files (such as iPhoto), and the files will appear. Drag files from the iDVD Media Browser into the DVD-ROM Contents window to add them to the DVD-ROM part of the project.

Q Is there a way to delete unused iDVD 5 themes to save some disk space?

A Yup. Quit iDVD. Open the Applications folder, then Control-click on the iDVD icon and select Show Package Contents. Open the Contents folder and then the Resources folder. View that folder in list view and sort by kind; all the themes will be grouped. Now trash the themes you don't want. (You can always reinstall them using the iLife '05 installer.)



If you group the items in iDVD's Resources folder by kind, you can easily find the themes you want to delete.

Q I want to include high-quality still images and other DVD-ROM content on a DVD. Can I use iDVD 5 to link that content through a text or image link, the way commercial movie DVDs with DVD-ROM content do?

A Unfortunately, you can't link the DVD-ROM contents of an iDVD project directly to a menu on the disc. There are other ways to point viewers to your content, though. For example, create a short movie, image, or slideshow that directs viewers to the DVD-ROM content, and then place that on the viewable part of the disc. You could also create an image file containing instructions on how to access those files and then create a menu with this image as the background. Place a button leading to this menu on the main menu of the disc. Workarounds like these won't get your viewers to the files as easily as a link would, but at least you can let them know they're there.—*Brad Miser*

iDVD CPR

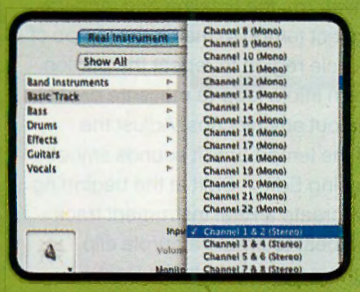
When iDVD's not behaving, try these:

1. **GET CURRENT** Make sure you have the latest versions of iDVD and QuickTime installed.
2. **MAKE REPAIRS** Run Disk Utility and repair all disks and permissions.
3. **FLY SOLO** Quit all other applications and log out of other user accounts before launching iDVD.
4. **ADOPT AN ALIAS** Create a new user account and run iDVD while logged in under the new account.

GarageBand 2

Q GarageBand can record more than two tracks simultaneously. How can I do that with just a single Mac audio input?

A You can't—sorry! You'll have to spend some money to purchase a USB or FireWire audio interface. After that, though, it's easy. In most cases, because of Mac OS X's Core Audio technology, it's as simple as plugging your audio interface into your Mac. GarageBand will recognize the interface, and you'll suddenly find a multichannel recording option in your Real Instrument track.



Add a multichannel audio interface, and GarageBand will present you with channel choices galore.

Q I've got a bunch of audio files I'd like to use as Apple Loops. How can I convert them?

A The easy way is to drag a file into a GarageBand project. Then highlight it; select Edit › Add To Loop Library; choose the appropriate key, genre, and descriptors; and click Create.

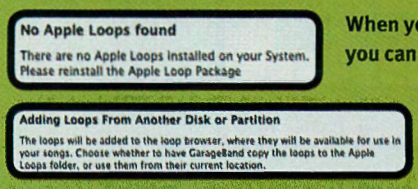
You might notice that the option to classify the new Apple Loop as a Loop or One-Shot is grayed out. This is because an imported file is unalterable, meaning changing the tempo or key won't affect the pitch or timing of the imported audio file (unless you're clever; see "Andrew's Top GarageBand Tip," p24).

Q I've got a big external hard drive I'd like to use to store my loops. How do I move them over?

A You have to install GarageBand on the same drive as Mac OS X, but it's easy to offload your Apple Loops to an external drive after that. First, quit GarageBand. Go to your /Library/Audio/Apple Loops/Apple/Apple Loops For GarageBand folder, which holds a little over a gigabyte of audio files. Drag that folder to your external hard drive.

Now go get the loops you created yourself—they're in your */user name*/Library/Audio/SingleFiles folder. Copy that to your external drive as well. Delete the original folders.

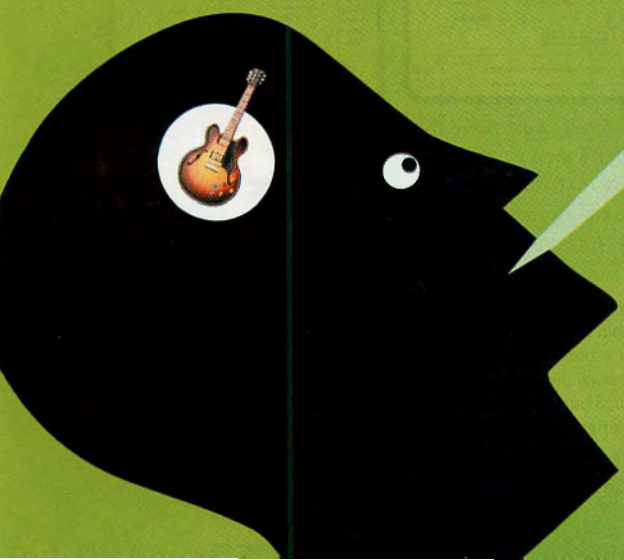
You'll also find a folder called Apple Loops Index in each of those Audio directories. Delete the contents of each. Now, when you launch GarageBand, you'll get a message telling you that no Apple Loops were found. Click OK. Click the eyeball icon, and a Loop Browser appears at the bottom of the GarageBand interface. Drag your new folders to anywhere in the Loop Browser. GarageBand will ask if you want to copy the loops to the Apple Loops folder or just use them from the current location. Choose Current Location, and you're ready to rock (or rap, or whatever).



When you delete a Loops index, you can have GarageBand create a new one—for the Loops you've moved to an external drive, for example.

Q I'd like to use GarageBand 2's multitrack recording feature. How do I record my guitar and vocals at the same time?

A There are two ways. One way uses a mixer plugged into your Mac's audio input, and the other employs a USB or FireWire audio interface. If you have a mixer, plug your guitar (let's assume it's electric) into channel one and plug a microphone (for your voice) into channel two. Pan the guitar *hard left* (turn the pan knob all the way to the left) and pan the microphone hard right. Create two Real Instrument tracks, setting the first tracks's Input to Channel 1 (mono) and the second track's Input to Channel 2 (mono). Make sure the Monitor is on so you can hear yourself. Turn on the Record Enable buttons for both tracks (when they're on, they're red). When you record, the guitar will record on the first track and your voice on the second. You can apply effects to either track as needed. For audio interfaces, the process is the same, but you don't need to do any panning. The Input selection will vary depending on the interface you're using, but you simply route the guitar channel to first track and the microphone to the second track.



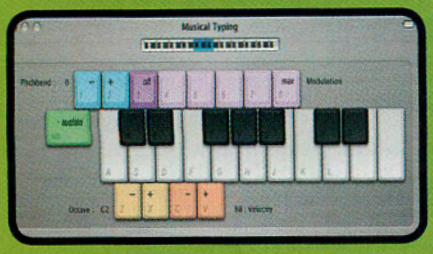
Q How do I import MIDI? How do I export MIDI?

A MIDI files contain musical data sans actual sounds. To play a MIDI file in GarageBand, drag the file into an empty GarageBand window—literally empty, with no tracks, Loop Browser, or track editor open. Just make sure the file has a .mid extension. If you have a complex MIDI sequence that uses a lot of instruments, use the Lock Tracks feature to offload CPU-intensive Software Instrument tracks to your hard drive (external, if possible).

If you want to export MIDI from GarageBand, though, you're out of luck. GarageBand won't do it.

Q I don't want to buy a MIDI keyboard, but I hate using that little onscreen keyboard in GarageBand 2. Is there a way I can use my Mac keyboard instead?

A Yes indeed. GarageBand has a feature called Musical Typing. Select Window > Musical Typing, and you'll get a window that maps your keyboard to a range of notes. You'll probably wind up hating it as much as the onscreen keyboard, but go ahead and try it out.



You can use your regular Mac keyboard to play your Software Instruments—but after a few notes, you may not want to.

Q Can I use VST effects or Instruments in GarageBand?

A VST is a popular digital-audio plug-in format—except in Apple's eyes, apparently. None of Apple's audio apps support VST, simply because the company's Audio Units architecture (according to Apple) is far superior and works safely with OS X's Core Audio. There is a possible workaround—though your results may vary. You can try FXpansion's VST To AudioUnit Adapter ($99, www.fxpansion.com), which makes VST plug-ins available in apps that normally support only Audio Units. It's handy when it works, but you'll probably want to urge VST developers to create Audio Units versions of their plug-ins.

Q Can I use Soundfonts with GarageBand?

A Soundfonts are like GarageBand's Software Instruments, and they're widely available on the Internet—in fact, many of them are free. (Check out Kenneth Rundt's list of links at www.saunalahti.fi/kru99/links-to-SF-sites.htm.) When you download Soundfonts, they should have a .sf2 extension. Place the files in your */user name*/Library/Audio/Sounds/Banks folder. Then, in Garage Band, create a new Software Instrument track. Select the track, click on the Track Info button (the "i" button), and click on the arrow to bring up the instrument details. Select DLSMusicDevice from the pop-up menu next to Generator. Click on the pencil icon to the right of that. Now find and select your Soundfonts from the Sound Bank pop-up menu. You can then save them as Software Instruments for easy retrieval later. Compatibility can be hit-or-miss, but remember: Soundfonts are free.—*Andrew Tokuda*

Andrew's Top GarageBand Tip

You can import an audio file and add it to your Loop Library, but you can't affect its pitch and speed—unless you fool GarageBand into thinking it's a recorded Real Instrument.

First, create a new project in the key of the audio file. Using the peaks in the waveform, the timeline grid, and the metronome, adjust the project tempo to match the tempo of the imported file. Set the cycle region to repeat the portion of the audio you want to turn into a loop (a measure or two), and make sure it plays without any hiccups. Adjust the placement of the clip and the tempo until it sounds smooth.

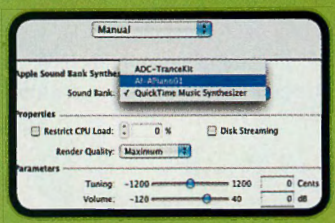
Crop this segment by using Edit > Split at the beginning and end of the cycle. Now create a Real Instrument track and record silence for one beat to create a purple clip. Here's the trick: Drag your orange clip onto the Real Instrument track right after the purple clip, select both clips, and choose Edit > Join. Click Create to make a single purple clip. Chop off the beat of silence at the start. You can now add it to your Loop Library as a loop that adjusts to tempo and key changes just like "normal" loops.

Turn imported audio into an Apple Loop by modifying the tempo (top), dropping it next to a Real Instrument track (center), and then joining the two (bottom).

GarageBand CPR

Though GarageBand may be considered a consumer or hobbyist app compared to Apple heavyweights Logic Express and Logic Pro, it's just as taxing on your Mac. The three main ingredients in good GarageBand performance are as follows:

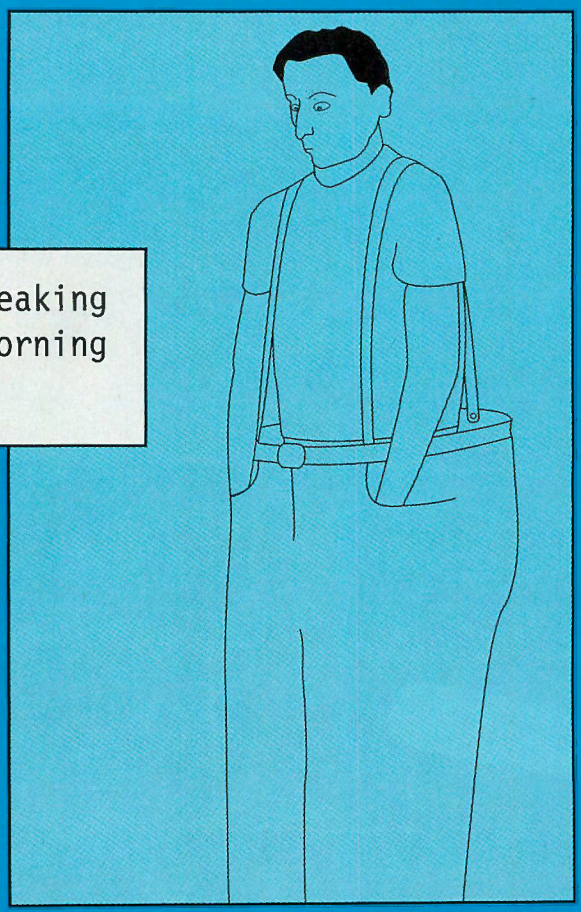
1. **PROCESSOR SPEED** Software Instruments and audio effects are processor hogs. A high-speed G4 is good. A G5 is better. A dual G5 is best.
2. **RAM** Install as much RAM as you can. More RAM means better Software Instrument performance and less disk reading and writing.
3. **HARD DRIVE SPEED** Get a fast second hard drive so GarageBand can handle more audio tracks with less chance of error messages. It also helps Real Instrument performance.



Freely downloadable Soundfonts means more free Software Instruments—after jumping through some GarageBand hoops.

How do we know our authors are iLife experts? Well, Shelly Brisbin writes books like *The MacAddict Guide to Living the iLife*; Brad Miser wrote *Mac OS X and iLife*; Andrew Tokuda makes music (check out www.digitaldroo.com); and Johnathon Williams writes regularly for a bunch of people (including us). They've got 60-odd years of Mac experience among them—but we're not letting them retire yet.

Ed was beginning to have the sneaking suspicion that something in his morning routine had gone horribly awry.



The right fit makes all the difference.

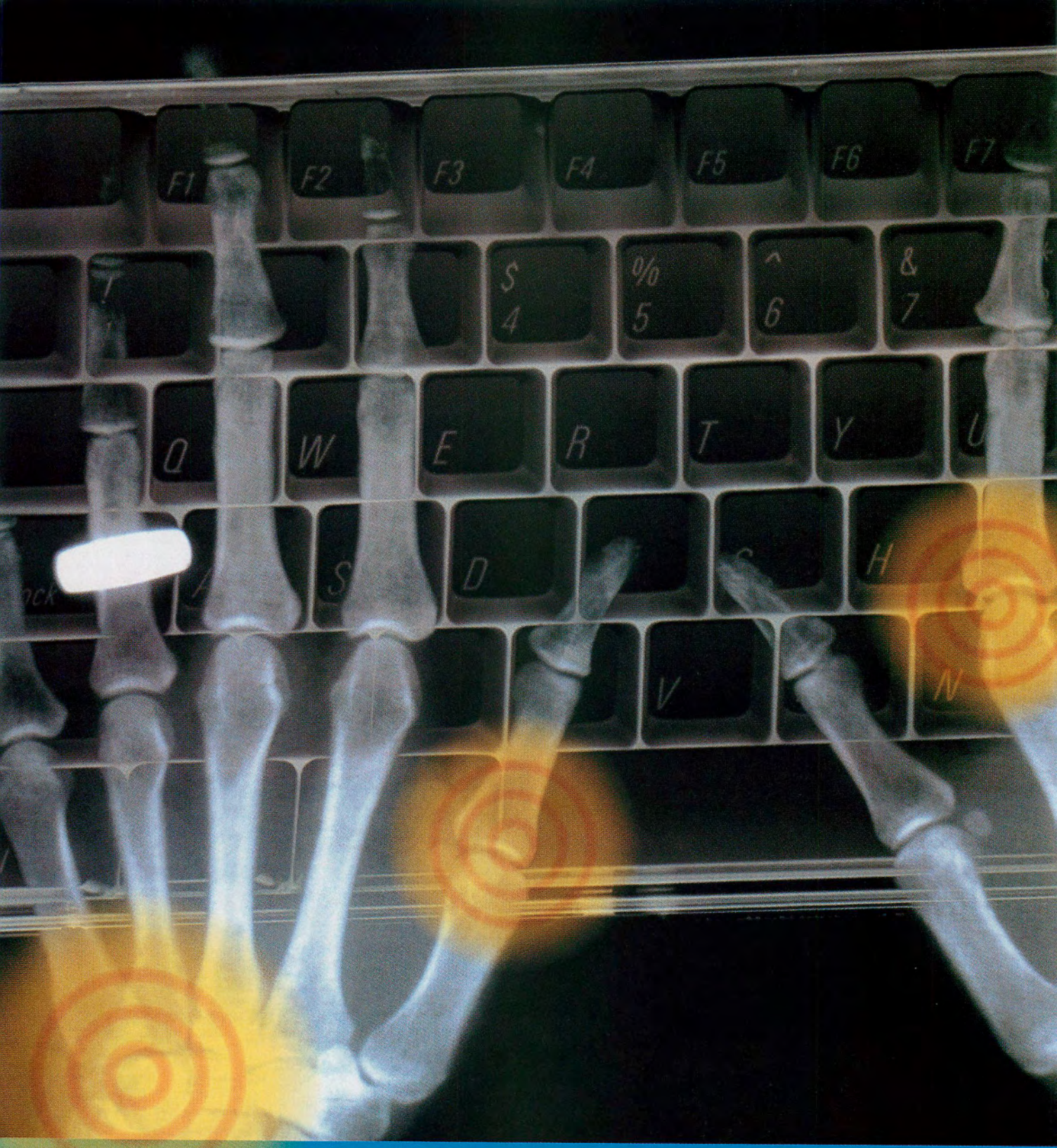
If you've ever been frustrated with a software application because it just didn't feel right, it's time to try **The Omni Group**. Our products are designed with YOU in mind, so you always have exactly what you need to get the job done...all within the beautiful, innovative interfaces we're known for. It's software that's actually fun to use - and fits like a glove.

OMNI

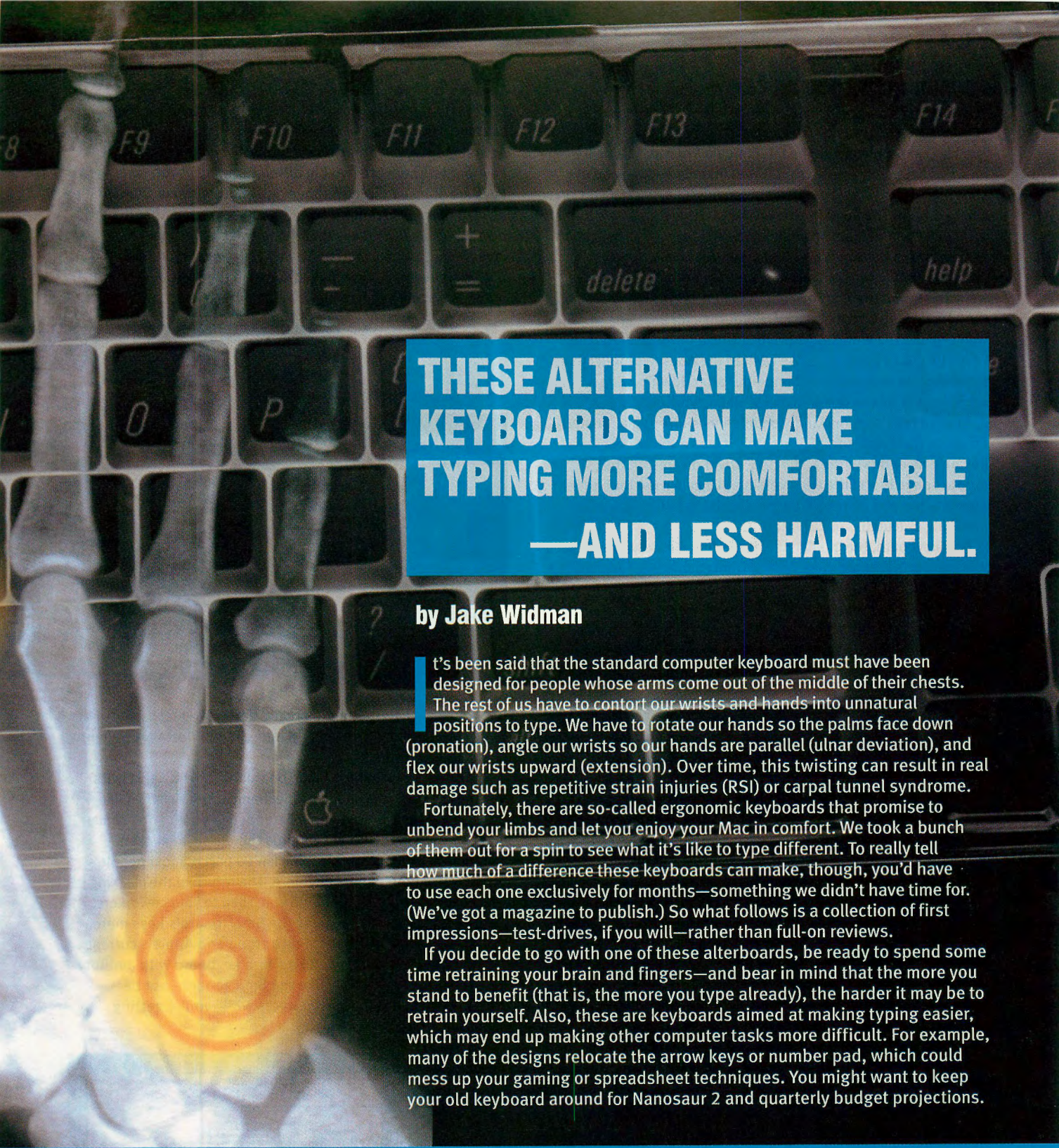
Our products have won industry awards, have been well-reviewed by Mac journalists, and regularly appear on lists of users' favorite applications.

- **OmniOutliner**, an amazingly flexible program for taking notes, making lists, managing projects, and organizing information.
- **OmniWeb**, a powerful web browser that gives you an unparalleled level of control over your browsing experience.
- **OmniGraffle**, a diagramming and drawing tool you can use to create flow charts, network diagrams, family trees, office layouts, and much more.

See for yourself what a difference the right software can make.
Download a free trial today at **www.omnigroup.com/rightstuff**



UNTWIST



THESE ALTERNATIVE KEYBOARDS CAN MAKE TYPING MORE COMFORTABLE —AND LESS HARMFUL.

by Jake Widman

It's been said that the standard computer keyboard must have been designed for people whose arms come out of the middle of their chests. The rest of us have to contort our wrists and hands into unnatural positions to type. We have to rotate our hands so the palms face down (pronation), angle our wrists so our hands are parallel (ulnar deviation), and flex our wrists upward (extension). Over time, this twisting can result in real damage such as repetitive strain injuries (RSI) or carpal tunnel syndrome.

Fortunately, there are so-called ergonomic keyboards that promise to unbend your limbs and let you enjoy your Mac in comfort. We took a bunch of them out for a spin to see what it's like to type different. To really tell how much of a difference these keyboards can make, though, you'd have to use each one exclusively for months—something we didn't have time for. (We've got a magazine to publish.) So what follows is a collection of first impressions—test-drives, if you will—rather than full-on reviews.

If you decide to go with one of these alterboards, be ready to spend some time retraining your brain and fingers—and bear in mind that the more you stand to benefit (that is, the more you type already), the harder it may be to retrain yourself. Also, these are keyboards aimed at making typing easier, which may end up making other computer tasks more difficult. For example, many of the designs relocate the arrow keys or number pad, which could mess up your gaming or spreadsheet techniques. You might want to keep your old keyboard around for Nanosaur 2 and quarterly budget projections.

YOUR WRIST

ADESSO INTELLIMEDIA PRO

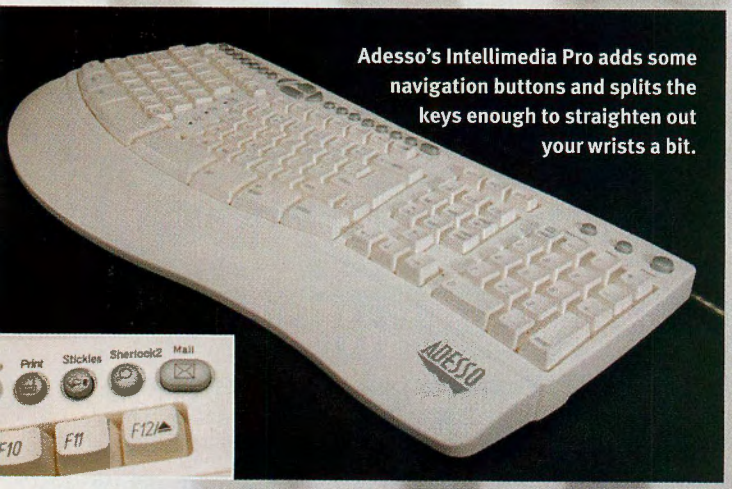
PRICE: $59.99

CONTACT: 800-467-1195, www.adesso.com

The biggest problem with the Intellimedia Pro was setting it up. The keyboard came with a CD that installed some kind of controlling software—but the installer didn't say what it was or where it went. The Read Me file on the CD offered the helpful advice, "After the install complete, the user can go /Application folder and run the KbdPower to do the USB keyboard key redefine." Doing the USB redefine sounded promising, so we went and found the KbdPower application, which let us assign the special Mail key to Microsoft Entourage (or anything we wanted) and the Web key to Firefox (ditto). Unfortunately, the keys still didn't work. Next, we went to the Adesso product page to look for drivers and found one—but after downloading it, it turned out to be the driver for OS 9. Hello, what year is this?

Adesso tech support kindly emailed us a link to an updated driver on their Web site. (Fortunately it was a direct link, because as of this writing, the only driver offered on the product page is still the OS 9 version.) Once we got that driver downloaded and installed, all the special keys finally worked, including Calculator and Sherlock2.

As a keyboard, the Intellimedia Pro is fine. The keys are divided into two parts that are angled away from each other, reducing ulnar deviation. The sections are essentially flat, though, so it does nothing for pronation. The keys have a good tactile feel, though we prefer the firmer feel of the less-expensive Microsoft Natural Elite Keyboard (p30). Given this keyboard's $59.99 price tag and shaky Mac support, it's hard to get enthusiastic about it.



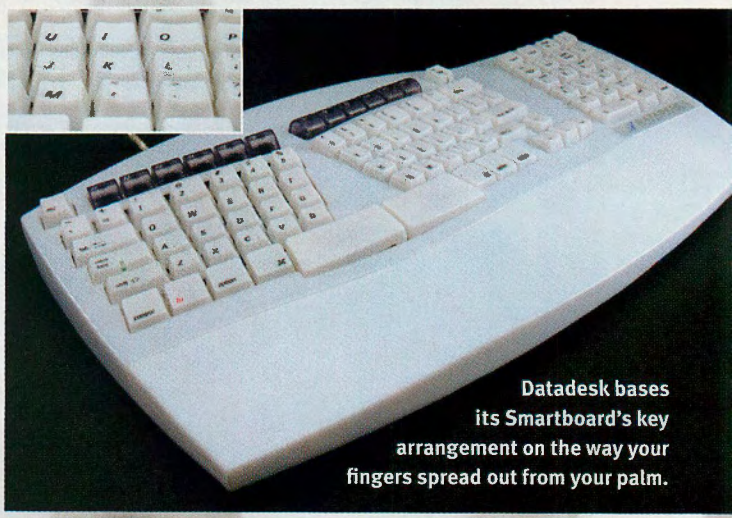
Adesso's Intellimedia Pro adds some navigation buttons and splits the keys enough to straighten out your wrists a bit.

DATADESK SMARTBOARD

PRICE: $119

CONTACT: 888-446-3222, www.datadesktech.com

At first glance, the Smartboard looks like all the other split keyboards. There are two big differences, however: One, the keys are stacked directly above one another rather than offset as on a normal keyboard; two, the top keys are larger than the bottom ones. The idea is that those two changes make the key layout more closely match the way your fingers naturally fan out from the palm. That makes sense in theory, but in practice it doesn't really seem to make much difference—only months of use would reveal whether it's really better (and really worth the $119 price tag) to move your fingers straight down than slightly to the side.



Datadesk bases its Smartboard's key arrangement on the way your fingers spread out from your palm.

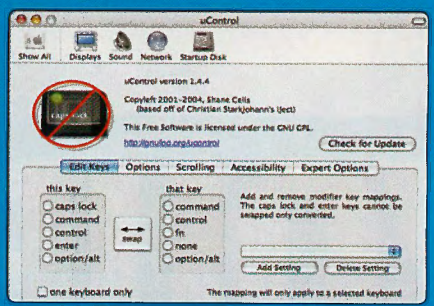
The other aspect of the Smartboard that sets it apart is its noisiness. This keyboard uses mechanical key switches like those in the beloved old Apple Extended Keyboard and similar to those used in the IBM keyboards that Apple mimicked. The thing is, that plastic clacking isn't a part of most people's computing environments anymore. The return of the clacking is likely to be distracting—if not to you, then to your coworkers.

The construction also gives the Smartboard's keys more resistance than the others in this group and Apple's current standard keyboards. If you like a firm keyboard with auditory feedback, you'll probably like the Smartboard—but be prepared to miss a lot of characters while you're getting used to it.

THE MAP IS NOT THE KEYBOARD

If you want to use a PC keyboard with your Mac—whether you want to use one of these ergonomic keyboards or because you're a new mini owner with a generic keyboard—you'll need to move some of the key assignments around to get them in proper Mac order. Most PC keyboards put the Alt key between the spacebar and a Windows key; by default, the Alt and Windows keys become Mac's Option and Command keys, respectively. That's fine, but their positions are reversed.

To put them in their proper places, you'll need a keyboard remapping utility. Two choices are uControl (free, on the Disc or download from http://sourceforge.net/projects/ucontrol) and DoubleCommand (free, on the Disc or download from http://doublecommand.sourceforge.net). Both put a preference pane in System Preferences that gives you direct access to some of the more commonly needed tasks (such as swapping Option and Command keys). DoubleCommand also enables further customization if you enter numeric codes into a text-based preferences file.



Keyboard remappers, such as the free uControl, can give a peecee keyboard a familiar Mac face.

KEY OVATION GOLDTOUCH USB ADJUSTABLE ERGONOMIC KEYBOARD

PRICE: $119.95

CONTACT: 866-277-9994, www.keyovation.com

The Goldtouch keyboard (like the Kinesis Maxim, p30) both splits apart to reduce ulnar deviation and raises in the middle, or *tents*, to reduce pronation. You set it up by releasing a locking handle, which allows the two halves of the keyboard to move around a ball-and-socket joint. You spread it apart, tilt it up, and lock it into position by securing the handle. The two halves of the keyboard can be placed at 30 degrees to the horizontal—about twice as steep as the Maxim can achieve, and closer to a wrist-neutral position.

The big problem with the Goldtouch is that with the keyboard tented, nothing is supporting the center—it's like an A with no crossbar. The result is that while you're typing, the keyboard bounces up and down a tiny bit—not enough to mess up your typing, but enough to trigger a vague sense of alarm. Plus, since much of the keyboard is elevated, there's no desk beneath to rest your wrists on. You'd be best off investing in the optional gel-filled wrist rests that Key Ovation sells for $14.95.

Once you release the locking handle, the Goldtouch keyboard splits and raises more than any other keyboard in this group—just make sure to bring some wrist rests.

The Goldtouch is a Windows-oriented keyboard with key-remapping issues, like others in this group; in this case, there's a Control-Alt pair that you can turn into Option-Command, but there's nothing you can easily change into a Control key. Key Ovation says that they plan to produce a Mac-oriented version of the keyboard by the end of 2005. Wait.

KINESIS ADVANTAGE PRO

PRICE: $159

CONTACT: 800-454-6374, www.kinesis-ergo.com

With its silver face and recessed key wells, the Advantage Pro looks like a prop from *Star Trek*—you just want to look up from it and intone, "Engage!"—but this bizarre-looking specimen just feels right straight out of the box. You're normally not supposed to type with the heels of your hands resting on the keyboard because it increases wrist extension, but with this design, your fingertips remain lower than your palms even with your hands at rest. (Kinesis includes thin cushions to stick on the keyboard to make using it even more comfortable.)

That's not to say it doesn't take some practice to get up to speed. Some of the keys are in new places, and finger movements are a little different (shorter, which is a good thing). An independent—and small—study at Ohio State University found that it only took an hour for subjects to get back up to 86 percent of their normal typing speed on the Advantage. And some of the new key placements feel like real improvements—putting the Backspace key under the left thumb and the Return/Enter key under the right thumb is truly convenient; we missed that when we went back to more conventional keyboards.

The Advantage Pro may look like something from the bridge of the Enterprise, but it's surprisingly easy to get used to (and like) its recessed key wells.

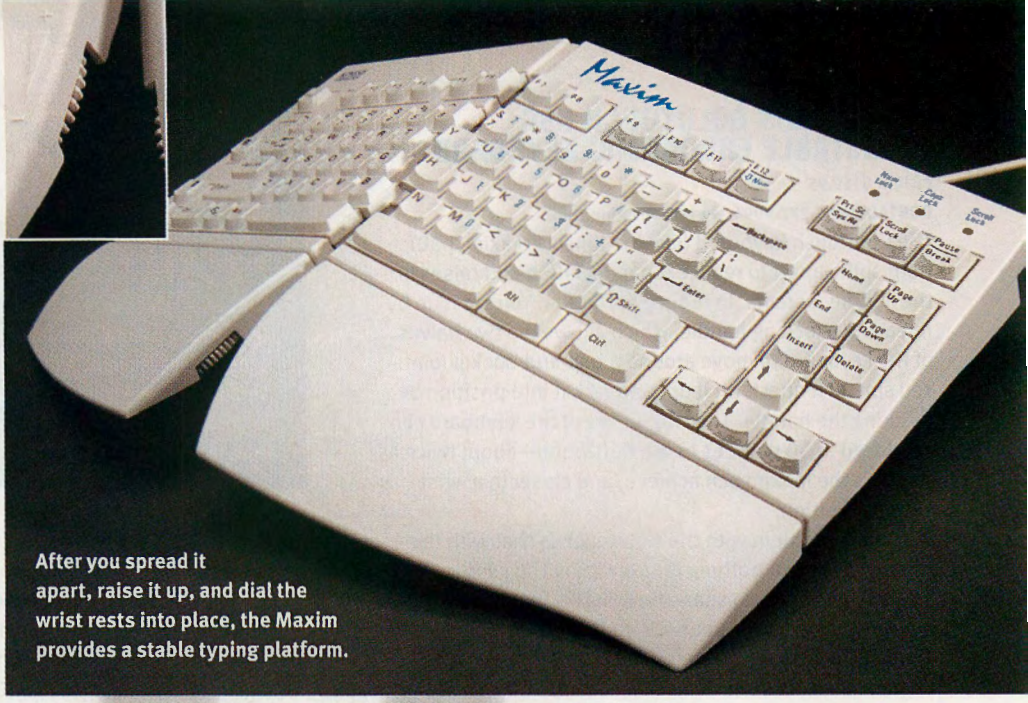
Other new key placements are more questionable, like putting the arrow keys on a row beneath the standard bottom letter row. If you use the arrow keys a lot already, you're used to them being separate from the letters; those who don't use them much have to stop and look for them anyway—why not just put them in the middle of the keyboard rather than someplace where it's easy to accidentally hit them? But all in all, we'd happily remap our fingers for this keyboard.

KINESIS MAXIM

PRICE: $359

CONTACT: 800-454-6374, www.kinesis-ergo.com

The Maxim aggressively takes on every fault of the standard keyboard. First, it splits down the middle and spreads apart (locking into one of five positions) to reduce ulnar deviation. With the keyboard on our desk, we liked the widest setting; using a keyboard tray with our elbows rested on the arms of our chair, it felt better to move the keyboard in a stop or two. The Maxim also *tents* in the middle to one of three positions (including flat), which helps reduce pronation. After setting the spread and tilt the way you like it, you adjust the detachable wrist rests until the whole contraption is stable.



After you spread it apart, raise it up, and dial the wrist rests into place, the Maxim provides a stable typing platform.

This setup looks implausible, as if there's no way the keyboard could stand up to serious typing. But even when widely spread and fully tented, it feels perfectly solid, and your hands fall into a natural, comfortable position.

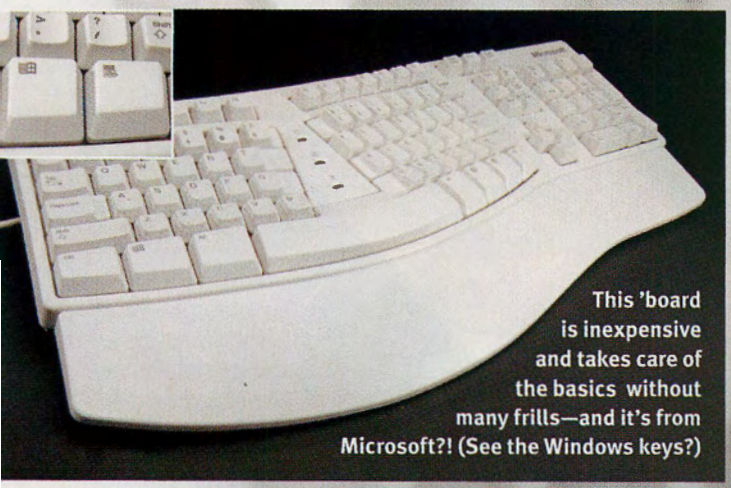
The Maxim doesn't have a separate numeric keypad, which shortens the keyboard and moves the mouse closer to your right hand. Instead, several keys near the center behave like a numeric keypad when you press the Function key. The standard top-row 7, 8, and 9 keys serve as the 7, 8, and 9 of the numeric keypad, with the rest of the keypad numbers and operands arrayed around and below.

MICROSOFT NATURAL KEYBOARD ELITE

PRICE: $44.95

CONTACT: 888-218-5617, www.microsoft.com

Every so often, the folks in Redmond get something right. This keyboard is one of those times. When viewed from above, the Natural Elite is practically indistinguishable from the Adesso Intellimedia Pro: The keys are at almost exactly the same angle, and the keyboard's almost exactly the same size. Like the Adesso, it's separated into right and left sets of keys—not as widely as the Kinesis Maxim or the Key Ovation Goldtouch, but enough to make a comfortable difference. But this keyboard has something the Adesso doesn't: a slope in the middle that gives a moderate tenting effect—again, not as much as on the ones that actually come apart, but enough to relieve discomfort from pronation. In addition to all that, the keys have a nice, firm responsiveness and a modest "clack" that we liked.



This 'board is inexpensive and takes care of the basics without many frills—and it's from Microsoft?! (See the Windows keys?)

As you'd expect, the Natural Elite has the usual disadvantages of a peecee-oriented keyboard. It requires a PS/2-to-USB adapter—but it's included in the box, so that's no big deal. But it also has a PC-oriented key arrangement with a Control–Windows key–Alt cluster that maps to Control-Command-Option on the Mac by default. You need to either retrain your fingers or use a remapper to swap the Option and Command keys. But really, for a keyboard that we've seen for $39.99 at a local computer superstore, this one offers a lot of comfort for not much empty-wallet syndrome.

DO THESE KEYBOARDS REALLY WORK?

The manufacturers of these alternative keyboards like to toss around expressions like "ergonomic" and "pain relief." But is there any real evidence that these keyboards do any good?

As a matter of fact, there is. A 1999 study tracked 80 computer users with musculoskeletal disorders and compared four different keyboards—one standard and three ergonomic. After six months, the researchers found that while there was no provable clinical improvement, pain lessened and hand function increased with alternative keyboards.

Another 1999 study measured joint movements during typical typing tasks. The study concluded that alternative keyboard designs could reduce tendon travel by as much as 11 percent. And in 2001, a different group of researchers published results showing that while alternative keyboards may not improve overall typing comfort, they probably do improve the comfort level of your shoulders and wrists.

SIT RIGHT TO KEEP FIT

Your keyboard is only one part of your workspace ecology. You can't expect an ergonomic keyboard alone to prevent all the potential problems that can result from using your Mac—if your keyboard's at the wrong height, for example, it'll still put stress on your shoulders. Here are some commonly accepted guidelines for setting up a body-friendly workspace.

1. Center your keyboard in front of you.
2. Use a keyboard tray, and position it so that your keyboard is just above your lap.
3. Keep your elbows in a slightly open position—90 degrees or more.
4. If your keyboard is lower than your desk, tilt it slightly down in back.
5. Type with a light touch.
6. Keep your arms and elbows relaxed and close to your body.
7. Keep your wrists straight while typing—don't rest them on the keyboard or tray.
8. Center your monitor in front of you.
9. Sit at arm's length from your monitor.
10. Place your monitor so that its top is 2 to 3 inches above eye level.
11. Tilt your monitor upward slightly.
12. Take frequent breaks.

SAFETYPE

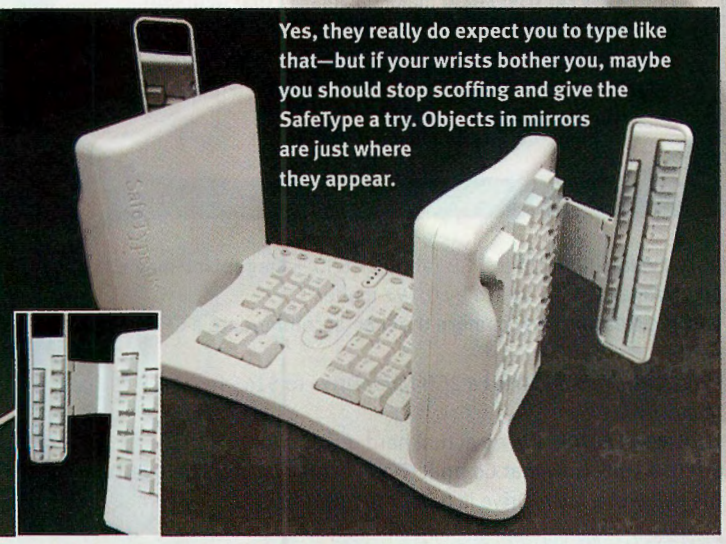
PRICE: $295.00 (plus $19.99 for USB adapter)
CONTACT: 858-204-0520, www.safetype.com

Take your keyboard, cut it in half, and stand the two halves on their ends, sticking up vertically. Now you've got something vaguely like the SafeType keyboard. The idea behind the Safetype is this: If you stand with your arms at your sides and bend your elbows to put your hands straight out in front of you, you'll notice that your palms are facing each other across a foot and a half or so of space. Wouldn't it be nice to type that way?

It is, in a way—it's certainly easier on the wrists. But there's nothing to rest your hands or arms on. If the SafeType is on a keyboard tray and down at the right level for your shoulders to relax while your forearms stick out perfectly straight, you're golden. Otherwise, you have to hold your arms up in the air while typing, which gets tiring awfully fast.

Furthermore, our brain-finger communication didn't adapt to the new orientation easily. Apparently, that's not a rare problem: The SafeType comes with a pair of rearview mirrors that let you see what your fingers are doing. Wacky, but true.

No doubt about it, the SafeType requires more of a commitment than any of the other keyboards. Fortunately, the company offers a 30-day money back guarantee on new keyboards and invites customers to contact them for suggestions in getting acclimated to the new way of typing.

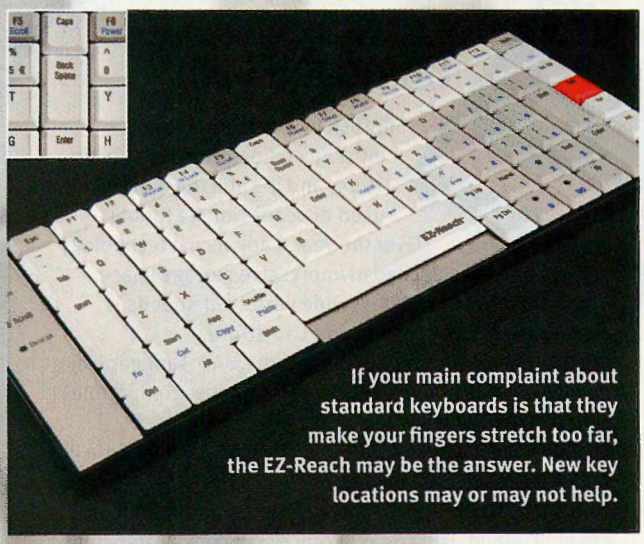


Yes, they really do expect you to type like that—but if your wrists bother you, maybe you should stop scoffing and give the SafeType a try. Objects in mirrors are just where they appear.

Features Editor Jake Widman's momma warned him to beware of ulnar deviates. She was right.

TYPEMATRIX EZ-REACH

PRICE: $99.00 ($75.00 if buying 2 or more)
CONTACT: 866-439-7322, www.typematrix.com



If your main complaint about standard keyboards is that they make your fingers stretch too far, the EZ-Reach may be the answer. New key locations may or may not help.

The EZ-Reach is small—not much bigger than a PowerBook keyboard pried out of its case. It's thin, too—just over half an inch thick. Ergonomically speaking, the idea is that condensing the keys into a small area and placing some of them in more convenient positions (the Enter and Backspace keys run down the middle of the keyboard, for example) will reduce the amount of overall hand movement required. Once you get in the habit of reaching over with your index finger or thumb to hit Enter, it's a much smaller stretch than it is for your pinky to reach Enter on a regular keyboard.

The downside is that the keys are so close together that it's easy to press the wrong one (the keys themselves are slightly smaller than a PowerBook's keys)—pressing the spacebar instead of N is trivial, but pressing Return instead of an apostrophe can get annoying. Furthermore, while the thinness of the keyboard helps reduce wrist extension, its small horizontal size means it hardly does anything for ulnar deviation. And while you can use a keyboard remapper to change the Control and Alt keys into Option and Command, there's no key available to turn into the Mac's Control key. If you have small hands or already prefer typing on a laptop over typing on a regular keyboard, you might like the EZ-Reach.

Tanks for Your Memories

Most digital cameras store images on slices of thumbnail- or matchbox-size circuitry called *media cards* or *memory cards*. When you choose a digital camera, you're also choosing the type of card that you're going to use—most cameras support only one, or at best two, types. On these pages, you'll find life-size snapshots of the most popular formats available today, along with info on subformats, capacity, cost, and more. (Note that our picture capacity numbers are only estimates—there are many factors that determine how many pictures will fit on a card of a given capacity. Also, the prices listed are from Amazon.com in late February—due to the volatility of memory prices, they may have changed by now.) If you lust after a particular camera, make sure it supports a card big enough to handle all the photos you're likely to take in a day—and don't forget to factor in the cost of that card.

BY FREDRIC PAUL

CompactFlash

SanDisk (www.sandisk.com) introduced CompactFlash (CF) in 1994, and it's still the most widely used digicam storage format. Over the years, advancing technology has packed in impressive storage space.

ALTERNATE FLAVAS: A wide variety of speeds is available—buy the fastest you can afford.

HOLD EVERYTHING: Up to 8GB (about 5,840 3-megapixel images). Cards above 2GB require cameras compatible with the FAT32 file system.

SIZE MATTERS: Type I: 1.78 by 1.4 by 0.13 inches; Type II: 1.78 by 1.4 by 0.197 inches.

WHO'S ON BOARD: Agfa, Aiptek, Argus, Canon, Concord, Epson, Fujifilm, HP, Kodak, Konica, Kyocera, Matsushita, Minolta, Minox, Nikon, Olympus, Panasonic, Pentax, Polaroid, Ricoh, Samsung, Sanyo, Sigma, Sony, UMAX, Vivitar, Yashica.

PRICE TAG: From $40 for a 512MB CF II card to $1,400 for an 8GB CF Pro card.

COOLNESS FACTOR: My card is bigger than yours.

BOTTOM LINE: Still your best choice unless you need a small point-and-shoot camera.

Memory Stick

Introduced by Sony in 1998, Memory Sticks are used in all kinds of Sony devices, from cameras to digital music players to TV sets. A few other companies make memory sticks, but only one—Konica—uses them in its cameras.

ALTERNATE FLAVAS: Memory Stick Pro has more storage space and faster read/write speeds. Memory Stick Duo is a miniature version for cell phones and other small devices. Adapters let you use the Duo in a standard Memory Stick slot.

HOLD EVERYTHING: Up to 2GB for Memory Stick Pro (about 1,450 3-megapixel pictures).

SIZE MATTERS: Memory Stick and Memory Stick Pro: 0.82 by 1.95 by 0.0975 inches; Memory Stick Duo: 0.78 by 1.22 by 0.06 inches.

WHO'S ON BOARD: Sony, Konica.

PRICE TAG: From $47 for a 256MB Memory Stick to $700 for Sony's 2GB Memory Stick Pro.

COOLNESS FACTOR: Lexar makes a version that lights up when it's in use.

BOTTOM LINE: Great choice if you're an all-Sony household. Otherwise, you're probably better off with a more standard medium.

MicroDrive

MicroDrives pack a tiny hard drive into a package compatible with CompactFlash Type II devices. Developed by IBM in 1998, MicroDrives are now built by Hitachi, Sony, and Seagate.

ALTERNATE FLAVAS: None.

HOLD EVERYTHING: Up to 5GB (about 3,650 3-megapixel images).

SIZE MATTERS: 1.78 by 1.4 by 0.197 inches.

WHO'S ON BOARD: Any camera that can accommodate a CF II card.

PRICE TAG: From $130 for a 2GB MicroDrive to $165 for a 4GB MicroDrive.

COOLNESS FACTOR: It's an actual hard drive, dude!

BOTTOM LINE: Now that CompactFlash cards can hold up to 8GB, the value of a MicroDrive is harder to fathom.

xD-Picture Cards

Developed by Fuji and Olympus in 2002, the small size of eXtreme Digital (xD) Picture Cards has quickly made them popular in digital cameras as well as other devices. Adapters let you use xD-Picture Cards in CompactFlash readers and (so their vendors claim) cameras, but xD cards can't match the capacity of their larger competitors.

ALTERNATE FLAVAS: None.

HOLD EVERYTHING: Up to 1GB (about 730 3-megapixel pictures).

SIZE MATTERS: 0.78 by 0.975 by 0.066 inches.

WHO'S ON BOARD: Canon, Fujifilm, Olympus.

PRICE TAG: From $27.45 for a 128MB xD card to $64 for a 512MB xD card.

COOLNESS FACTOR: Small is beautiful.

BOTTOM LINE: xD-Picture Cards are typically a bit more expensive and have a much smaller capacity than other digital camera storage options, but they're a great choice when small size is the most important factor—think cell-phone cameras.

SD and MMC Cards

Developed in 1997 by SanDisk and Siemens from the older MultiMedia Card (MMC) standard, the Secure Digital (SD) card has emerged as the primary mainstream challenger to CompactFlash. SD cards include an erasure-prevention switch to help prevent accidental data loss.

ALTERNATE FLAVAS: SD adds security for copyrighted data and transfers data four times faster than MMC. Most SD devices also accepts MMC cards, but MMC devices may not support SD cards. miniSD cards are even smaller and often come with adapters for use in SD devices.

HOLD EVERYTHING: SD cards hold up to 1GB (about 730 3-megapixel images); SanDisk will release a 1GB miniSD card later this year.

SIZE MATTERS: SD: 1.26 by 0.94 by 0.083 inches; miniSD: 0.846 by 0.787 by 0.084 inches; MMC: 0.94 by 1.2 by 0.046 inches.

WHO'S ON BOARD: Casio, Kodak, Konica, Kyocera, Minolta, Panasonic, Sharp, Toshiba.

PRICE TAG: $37 for a 512MB SD card; $66 for a 512MB miniSD card with adapter; $51 for a 512MB MMC card.

COOLNESS FACTOR: Smaller than CompactFlash, but just as dull.

BOTTOM LINE: SD and MMC are more compact than CompactFlash, but they can't match the capacity of the newest CF cards. Still, they're the media of choice in many small consumer cameras.

Old Busted Joints

If you like to search the bargain bins, you may still find digital cameras that use these storage methods. No matter how cheap they are, don't buy them—you'll regret it later when you want more speed or storage space.

PC CARDS The same kind that slide into in your PowerBook, these cards can hold many gigabytes, but they're so big that they're used mainly in professional studio cameras.

3-INCH CD Some Sony cameras burn mini CD-Rs to store pictures. The CDs make it easy to transfer images to your Mac (unless you have a slot-loading drive, in which case don't even try), but they're relatively slow—and unless you use CD-RW media, you'll run through a lot of discs.

SMARTMEDIA Thin and fragile, Toshiba's SmartMedia cards hold only up to 128MB. That capacity hasn't increased since the year 2000, and fewer and fewer cameras support the format.

FLOPPY DISK Early cameras like Sony's MVC-FD200 Digital Camera store snaps on floppies. Puh-*lease*.

INTERNAL MEMORY Many cameras have digital storage built in. That's great in a pinch—especially if you get 32MB or more—but avoid low-end cameras that have *only* internal storage.

New Hotness

USB FLASHCARD About half as wide and twice as thick as an SD card, the USB FlashCard features a built-in USB connector so you can plug it directly into your Mac. Developed by Lexar, Full-Speed USB (12 Mbps) versions with 16MB, 32MB, and 64MB capacities and Hi-Speed USB (480 Mbps) in 64MB, 128MB, 256MB, 512MB, and 1GB sizes are due any day now. Few cameras support the format yet, but it promises a big jump in convenience and compatibility.

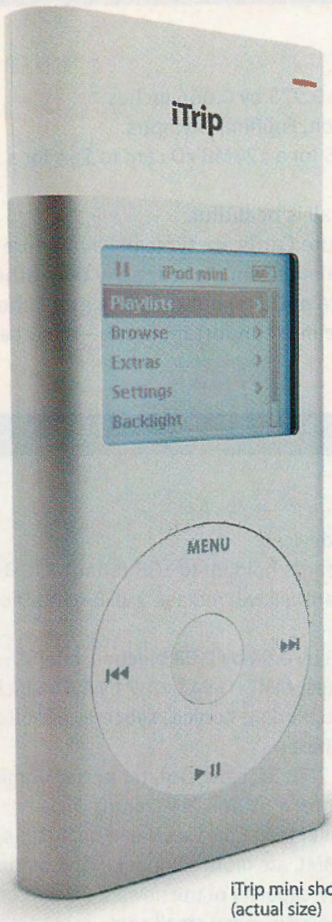
The X Factor

It's important how fast your camera can write data to a memory card and transfer data to and from your Mac—especially with big cards, high-megapixel images, and full-motion video. However, if companies publish speed specs at all, they do so using a bewildering variety of measurements and formats—and the fine print is always sure to disclaim any real-world validity.

Many vendors use the letter x as a convention to denote transfer speed, with each x valued at about 150 KBps. So a 4x card would transfer data at 600 KBps, while an 80x card would do so at 12MBps. (Yes, they really do vary that widely.) But just because a card says 40x on the label, don't count on it being 10 times faster than a card labeled 4x. There are many other critical factors involved, including the camera the card is in.

So, while it doesn't hurt to look for a higher x factor, take these numbers with a shaker full of salt. About the most you can be sure of is that one manufacturer's 100x CompactFlash card is going to be at least somewhat faster, in the same circumstances, than the same company's 2x CF card.

Fredric Paul, editor in chief of TechWeb.com, stores his memory cards in a shoebox under his bed, along with his collection of pre-steroids baseball cards.



iTrip mini shown
(actual size)

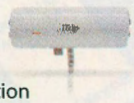
Let me take you on a trip...

Quick, where do you most often listen to music? In your car, right? The easiest way to enjoy all of that music in your car is the Griffin iTrip. Snap iTrip on your iPod or iPod mini and suddenly your music is filling up your next road trip, daily commute or business trip - right through the built-in FM stereo of any car. Buy an iTrip for your iPod or iPod mini and your favorite song will always be on the radio.

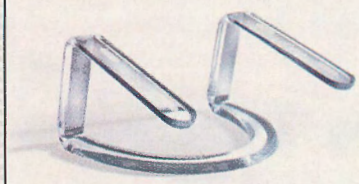
iTrip

$39.99

FM Transmitter for iPod



- The **only** FM Transmitter designed exclusively for the iPod & iPod mini
- Choose any empty station from 87.7 to 107.9, and change your iTrip stations directly from the iPod
- **iTrip for 4G iPods** also available. Please visit us online for more information
- Draws power from the iPod, no batteries ever needed–or wasted

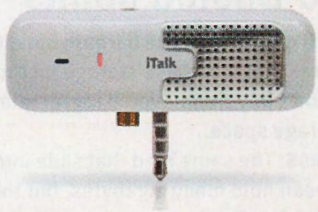


iCurve

$39.99

Laptop Desktop Stand

- Raises notebook screen to eye level - no more sore neck from looking down
- Creates room on the desktop for your favorite USB keyboard and mouse - wireless versions work great
- Keeps your notebook running cool (and loud fans off) with 360° airflow



iTalk

$39.99

Voice Recorder for iPod

- Turn your iPod into a digital voice recorder with thousands of hours of recording time
- Automatic Gain Control assures the best possible signal level for recordings
- Features internal microphone and built-in laptop quality speaker for playback
- Connect an external microphone or even headphones to the built in pass-through mini jack connection on top

iMic

$39.99

USB Audio Interface

- Record your old records and tapes to play in iTunes, put on your iPod, or burn to CDs
- Connect any keyboard, guitar or microphone directly to GarageBand for high quality recording
- Use line level output to connect your Mac to a stereo or external powered speakers

Another great idea from GRIFFIN

Buy now at **www.griffintechnology.com**

MacAddict RATINGS

MacAddict RATED AWESOME	MacAddict RATED GREAT	MacAddict RATED SOLID	MacAddict RATED SO-SO	MacAddict RATED LOUSY
You'll be blown away.	You'll be impressed.	You'll be satisfied.	You'll be disappointed.	You'll be pissed off.

REVIEWS

better living through smarter shopping

Spring is in the air—it's time to leave the comfy confines of home and rediscover your social life. You can use your new PowerBook to meet friends at the local coffee house and share the pictures you took with your Olympus Evolt E-300—and you can tell your friends how you saved a few photos from permanent deletion with ProSoft's Picture Rescue. Call up a few more buddies on your Treo 650 phone/PDA combo, and meet at your place for an impromptu spring shindig. And what's a shindig without music? Put it in the mix with Hercules' DJ Console (pictured). Next month, we'll review the Sonos Digital Music System, Better Energy Systems' Solio solar-powered iPod charger, LaCie's 321 LCD display, and a lot more.

38 **12-inch PowerBook G4** *notebook*
38 **15-inch PowerBook G4** *notebook*
38 **17-inch PowerBook G4** *notebook*
50 **AirPlay** *iPod FM transmitter*
42 **Business Inkjet 1200d** *inkjet printer*
45 **Call of Duty: United Offensive** *first-person shooter*
46 **Callisto mk II** *speakers*
40 **Carrara 4 Pro** *3D software*
46 **DJ Console** *audio mixer*
41 **Evolt E-300** *camera*
50 **H-D70 FlipUp** *camera-LCD sunshade*
48 **iDive** *video-management software*
36 **iWork '05** *productivity suite*
49 **MTX: Mototrax** *dirt-bike racing game*
50 **Picture Rescue** *media-card utility*
44 **Primatte Chromakey 2.0** *Photoshop masking plug-in*
48 **The Mouse BT** *Bluetooth mouse*
49 **TrayDock** *hard-drive enclosure*
44 **Treo 650** *phone and PDA hybrid*
47 **VerticalMouse 2** *ergonomic mouse*

PLUS:

TheHotList

51 **The best of the best from recent reviews.**

PHOTOGRAPH BY MARK MADEO

X Compatible with Mac OS X or later.

9 Compatible with Mac OS 9 or earlier.

EDITORS' MacAddict CHOICE — We'd spend our own hard-earned money on this product.

iWork '05

PROMISING WORD PROCESSOR AND PRESENTATION APPS

Don't let iWork's less-than-inspiring name deceive you, as both of the applications under its roof—Keynote 2 and the all-new Pages—are at times brilliant conduits to creativity. Both have solid, well-designed tool sets and clean, well-organized interfaces, and both address compatibility issues (to varying degrees of success). After creating projects with each app, however, it became clear that Keynote and Pages are in different stages of development. While Keynote is now in full bloom, the little ingénue Pages has some growing up to do.

The iWork apps do have things in common. Each has a handy-dandy Media browser, which pulls up your iTunes, iPhoto, and iMovie collections. From the Media browser, you can drag and drop media directly into your documents. Both apps also feature an Inspector window—an all-purpose tool shed that serves as the hub of formatting info. (Note: You can now view more than one Inspector window at a time.) And just as you can build tables and charts directly into these apps, so can you crop photos—the new masking tool lets you crop any photo to better fit your page layout.

Unfortunately, the two apps also share something not so cool: a Find & Replace bug that puts your replacement word or phrase wherever your cursor is located before it seeks out the first instance of the word you're trying to find. Also, if you don't remember where the search began and continue to press the Replace and Find buttons, you end up inputting the replacement word or phrase twice twice (like that). So much for quality control. Hopefully, by the time you read this, Apple will have released an update that fixes these annoying problems.

Keynote 2

When Keynote debuted in 2003, it had beauty—now it has brains. You can animate individual characters, lines of text, or object builds with precise timing (down to fractions of a second) on individual slides. We appreciated the ability to preview effects before applying them, and we liked having the choice to either trigger effects automatically or by clicking our mouse. You can also add a soundtrack with the option to loop, or attach an audio file to a single slide.

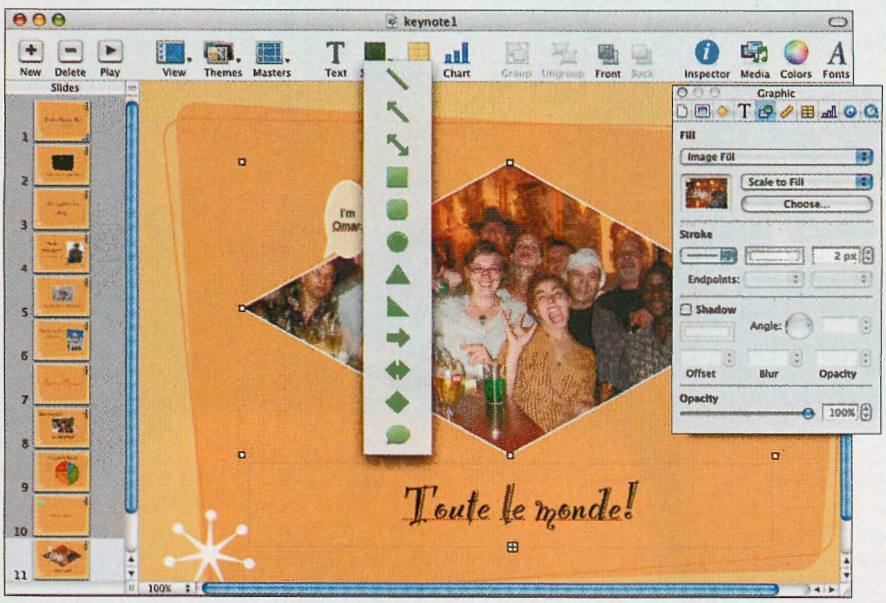
Version 2 also offers better text handling. The Text Inspector is now divided into two tabs: Text and Bullets & Numbering. You can add bullets, set margins around paragraphs, and change the spacing between characters, lines, and paragraphs. You can also type text directly into shapes and create free text boxes (sans bullets); a Fonts browser allows you to quickly access any font on your system.

In addition to exporting and importing presentations to and from PowerPoint, you can import data from Excel or AppleWorks for use in one of eight chart types. The improved table tool makes easy work of creating headers and resizing rows and columns.

Makeover. Meanwhile, Keynote has slapped on a little makeup. You now have a choice of 20 themes, most of which are nice in a tasteful-but-unoriginal, Pottery Barn sort of way—we're grateful that there's an option to design your own custom master slides and themes. Using new transitions (now five 3D and 18 2D effects in all), we burned, popped, and otherwise mutilated ours in style.

There are now three different types of slideshow: normal, self-playing (great for kiosk demos), or hyperlinks-only (for interactive presentations). In the Hyperlink section of the Inspector, you can add links to the Web or email, or create buttons for slide navigation (previous/next). Plus, you can place a snapshot of a Web page in your presentation that will automatically update as you present (as long as you're connected to the Internet).

If you have two displays, you can now type notes as you create your slides; when it comes to presentation time, you can view the notes as you go without showing them to your audience. You can also keep tabs on the elapsed time or time remaining, and show the current slide, the next slide, or both.

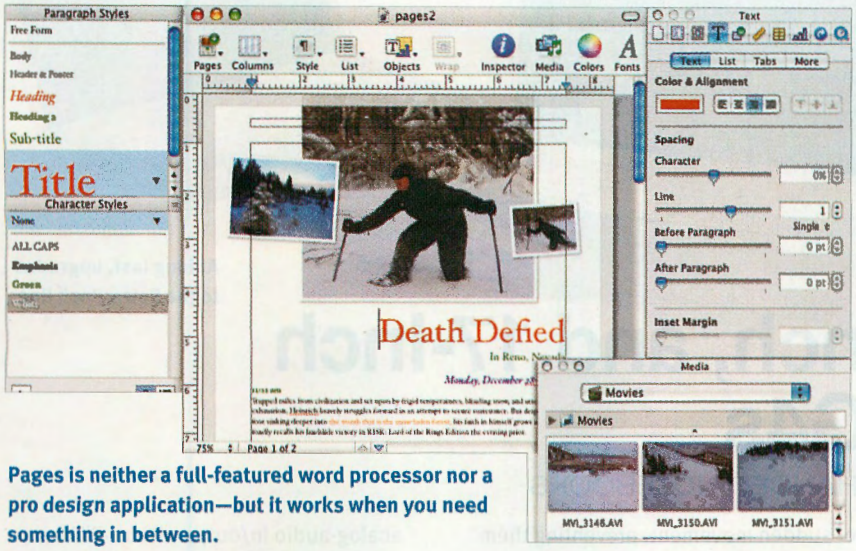


Keynote 2 lets you place and resize 12 shapes with options for transparency, text, color, and fill.

Pages

The placeholder text within each Pages template seems remarkably representative of Pages itself. The text is taken from Cicero's work *De Finibus Bonorum et Malorum*, which translates to *The Extremes of Good and Evil*. Likewise, Pages is about opposites—a sum of both brilliant and surprisingly lame parts.

Let's get it out there: Pages is no Microsoft Word. It does, however, combine fundamental—even quite



Pages is neither a full-featured word processor nor a pro design application—but it works when you need something in between.

decent—word-processing tools with design basics to make an interesting and rather useful application.

Like Keynote, you begin by choosing from a variety of templates, each of which contains several predefined page designs (and as in Keynote, you can customize galore). Pages offers a total of 41 stylish templates: one blank, six newsletter, three journal (we loved these), six invitation, six stationery, three resume, six education (including lab notes, a syllabus, and a quiz form), and six marketing (including a menu).

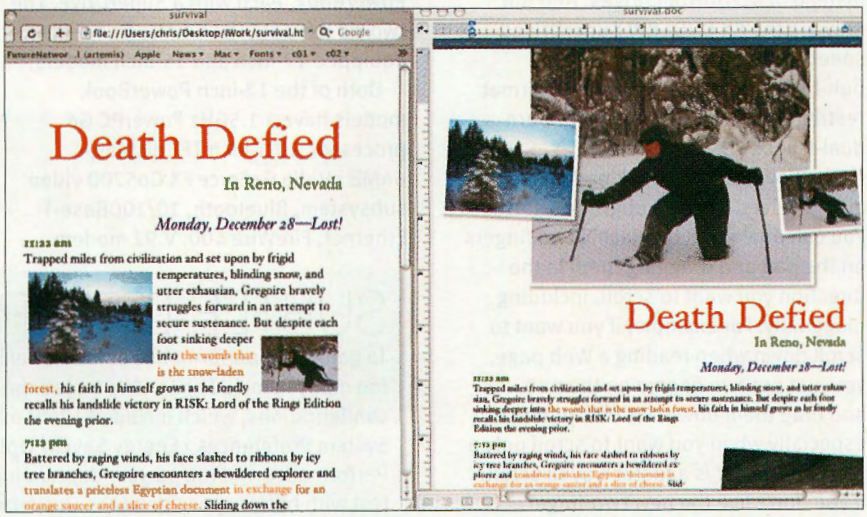
Pages offers live feedback with rulers and alignment guides for when you adjust text and objects. You can display ruler units as percentages and change ruler units of measurement if you prefer picas to points. And you can choose to view or not to view invisible characters. Any object (shapes, graphics, media) you import can either be fixed (text flows around it) or inline (moves with text). You can also layer, resize, and move objects, or change object properties with relative freedom, although doing so often feels clumsy.

You can view paragraph, list, and character styles in the tidy Styles Drawer. Modifying and creating new paragraph styles is simple via the Text Inspector. Other good formatting options include an auto-updating table of contents, footnote styles, and customizable headers and footers. Essential page-setup features, hyphenation options, and ligature preferences are at the ready but at their most basic.

Now for the sticky bits. Compatibility is a great thing—when it actually works. It was exciting news to hear we could export our Pages documents to Word, RTF, Plain Text, HTML, and PDF formats, but our spirits dampened when we read the disclaimer in the manual that elements would move or be lost in translation—and real disappointment set in when we actually tried exporting for ourselves. Line spacing, special effects, graphics, and more translated inconsistently. We had luck with PDF files in general, and some documents made the transition to Word without much alteration, but exporting to HTML and RTF proved fairly useless. Also, don't count on successfully exporting movies or audio from Pages. Use Keynote instead.

Disappointment gave way to annoyance when it came to deleting unwanted pages from a project. In Keynote, the clever outline window at the left of the canvas allows you to snip, move, and otherwise manipulate pages of your presentation at will. In Pages, if you wish to delete a page, you have to systematically select each object in your layout (making sure it's unlocked) and delete it. This is a hassle, especially if you are deleting or significantly revising a complex document. Until Apple comes out with a fix, we'll probably go with the clunky "undo" system, saving versions as we go along.

The bottom line. iWork may one day become a powerful productivity suite to replace AppleWorks (Apple's word-processing, spreadsheet, database, and design conglomerate) and rival Microsoft Office—but that's a ways off. In the meantime, we're pleased as punch with Keynote ... and looking forward to an update to Pages.—*Jenifer Morgan*



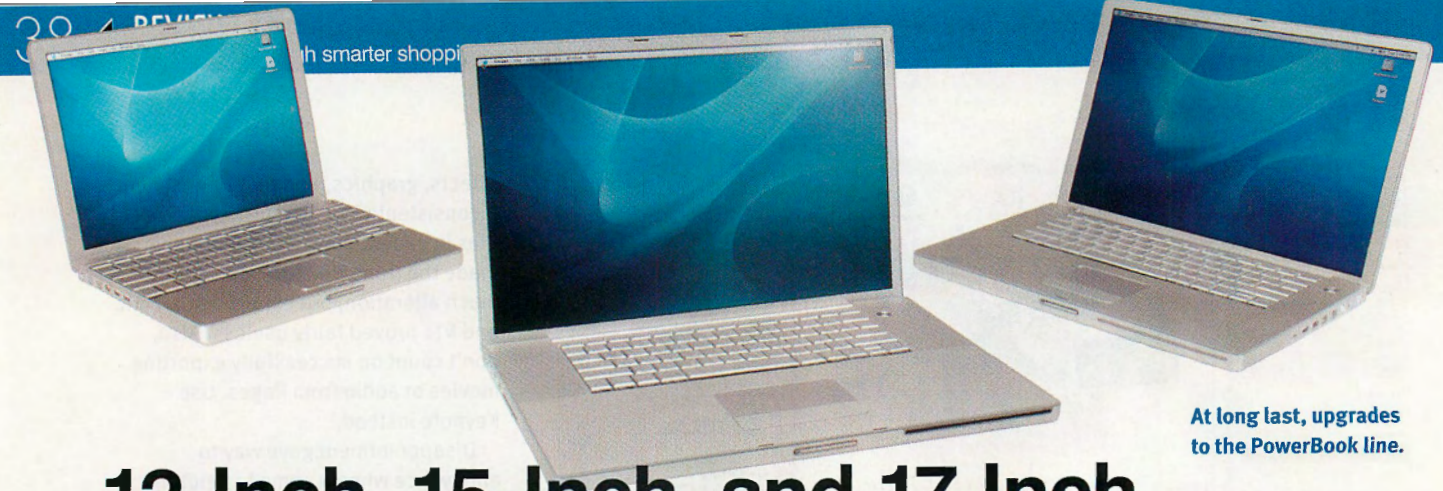
Our export from Pages to Microsoft Word (right) turned out decently, but the layout completely transformed when we exported it to HTML (left).

COMPANY: Apple
CONTACT: 800-795-1000 or 408-996-1010, www.apple.com
PRICE: $79

REQUIREMENTS: 500MHz G3 PowerPC, G4 PowerBook, Mac OS 10.3.6 or later, 128MB RAM, 8MB of video memory, 1GB disk space, QuickTime 6.5 or later, DVD drive

GOOD NEWS: Innovative transitions, animations, and effects. Clean interface. Handy tools. Inspires creativity.
BAD NEWS: Find & Replace bug. Occasionally clunky. Noticeable ceiling on features.

MacAddict RATED
SOLID



At long last, upgrades to the PowerBook line.

12-Inch, 15-Inch, and 17-Inch PowerBook G4s

SPEED-BUMPED, FEATURE-ENHANCED NOTEBOOKS

It's been a while since we've seen a revision of Apple's PowerBooks, and we finally got a speed jump—just not the one we really wanted. To be fair, word on the street is that the G5 CPU is tricky to keep cool in the confines of a notebook—give Apple credit for taking the time to (quietly) do it right. So although the new PowerBook G4s have reached a new speed echelon, it's a lower echelon than we had hoped.

There's more new hardware inside the PowerBooks than just the faster G4 processors. Apple now includes 512MB of RAM with the stock model of each PowerBook (high fives all around!). The hard drives are faster—5,400-rpm instead of 4,200-rpm drives. And not only are the 8X DVD±RW SuperDrives speedier, but they also let you say buh-bye to those annoying DVD-format restrictions (although you can't burn dual-layer DVDs).

The PowerBooks' track pads have also received a speed upgrade—sorta. You can now scroll by placing two fingers on the pad and dragging them in the direction you want to scroll, including diagonally. For example, if you want to scroll down when reading a Web page, you just put two fingers on the pad and drag them down. It takes practice, especially when you want to scroll only a few lines, but it *is* a faster way to scroll. If you don't like the new two-finger scroll, you can turn it off in the Keyboard & Mouse System Preferences.

The other key new feature in the PowerBooks is one we were afraid to test: Apple's Sudden Motion Sensor. The Sensor is designed to park the hard-drive heads in the event of a fall or sudden movement, preventing them from banging against the disk platters. Call us wusses, but we couldn't bring ourselves to purposely drop a brand-new PowerBook to test this feature; we could do more than just damage the hard drive. (*The truth: No MacAddict editor felt like having his salary docked to buy a replacement PowerBook.—Ed.*)

These PowerBooks still get plenty toasty after several minutes of use—and studies have shown that notebook heat can reduce a male's fertility. That may be a good or bad thing. You decide.

Configurations. Of the five new PowerBook configurations, we looked at three: a 12-inch, a 15-inch, and a 17-inch PowerBook, each with a SuperDrive. The two we left out? The Combo Drive–equipped 12-inch and 15-inch models.

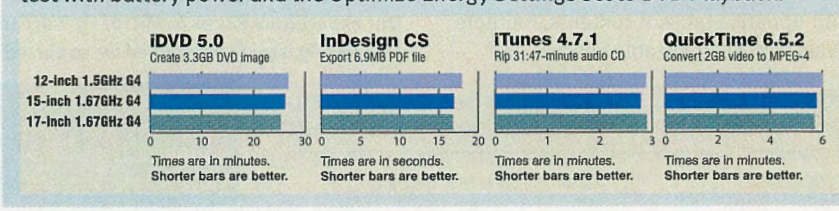
Both of the 12-inch PowerBook models have a 1.5GHz PowerPC G4 processor, 12.1-inch TFT display, 64MB nVidia GeForce FX Go5200 video subsystem, Bluetooth, 10/100Base-T Ethernet, FireWire 400, V.92 modem, analog-audio in/out, and mini-DVI out. The SuperDrive model has a 80GB hard drive, while the Combo Drive version has a 60GB drive. Unfortunately, the 12-inch PowerBooks are the only ones in the line that don't have illuminated keyboards.

The main difference between the SuperDrive-equipped 15-inch PowerBook we reviewed and the Combo Drive version is the processor: You get a 1.67GHz PowerPC G4 processor with the SuperDrive model and a 1.5GHz PowerPC G4 with the Combo Drive. The common specs: a 15.2-inch TFT widescreen display, 64MB ATI Mobility Radeon 9700 video subsystem, 80GB hard drive, Bluetooth, Gigabit Ethernet, FireWire 400 and 800, V.92 modem, analog-audio in/out, DVI and S-Video out, and an illuminated keyboard.

There's only one 17-inch PowerBook; it has a 1.67GHz PowerPC G4, 17-inch widescreen TFT display, 128MB ATI Mobility Radeon 9700 video subsystem, 100GB hard drive, and SuperDrive. Everything else about the 17-inch

SUBTLE DIFFERENCES

To gauge the performance of the PowerBooks, we ran several real-world tests—far too many to include here. We tested the PowerBooks with their stock SuperDrive configurations, which include 512MB of RAM. We performed the timed tests with System Preferences › Energy Saver › Optimize Energy Settings set to Highest Performance and the power adapter plugged in. We performed our DVD playback test with battery power and the Optimize Energy Settings set to DVD Playback.



PHOTOGRAPHS BY SAMANTHA BERG

PowerBook—connectivity, video- and audio-out, keyboard—is the same as the 15-inch PowerBook.

Interestingly, each PowerBook we tested contained a hard drive from a different manufacturer: a Hitachi Travelstar 5K100 in the 12-incher, Fujitsu MHT2080AH in the 15-incher, and Seagate Momentus 5400.2 in the 17-incher. Apple, like most personal-computer manufacturers, installs a variety of hard drives into its products—you have little or no say over which you'll receive. All three drives are comparable performers—but if, for example, you fancy Hitachi, you'll need to run System Profiler (/Applications/Utilities) before buying a particular PowerBook to see what brand of hard drive it contains.

Speed. The main objective of our testing was to uncover the speed differences between the 1.5GHz and 1.67GHz G4 processors. It turns out that they're marginal. For example, when exporting a QuickTime movie in iMovie HD, the 1.67GHz G4 PowerBooks were 8 percent faster than the 1.5GHz G4 12-inch PowerBook. When saving a DVD image in iDVD, the 1.67GHz G4s were 6 percent faster; and when converting a DV movie to MPEG-4 in QuickTime, the 1.67GHz G4s were 5 percent faster. Our Unreal Tournament 2004 video tests yielded bigger differences—the 1.67GHz G4 PowerBooks were 27 percent faster in the flyby test and 10 percent faster in the botmatch test.

In a couple of other tests, performance results were nearly identical: importing photos in iPhoto, ripping The Shaggs' *Philosophy of the World* CD in iTunes, and saving a 100MB file in Photoshop. Curiously, the 12-inch PowerBook was consistently faster than the 15-inch and 17-inch PowerBooks when performing a Photoshop Action that mimics real-world graphics chores.

We also watched a *Lawrence of Arabia* DVD to see how far into the film we could get on fully charged batteries. On all three PowerBooks, we got through about 2 hours and 35 minutes of the 3-hour-and-48-minute movie.

The bottom line. The new speed and features are enough for owners of older 'Books to seriously consider upgrading, and for new buyers to plunk down their cash. We think they're worth the money.—*Roman Loyola*

Apple Powerbooks

COMPANY: Apple
CONTACT: 800-795-1000 or 408-996-1010, www.apple.com
GOOD NEWS: 12-incher is ultra-portable. 15-incher is the perfect size. 17-incher is gloriously huge. Stock 512MB of RAM (!). Good speed boosts. Backlit keyboards on 15- and 17-inchers. Nice, exceptionally bright displays. Hard drive motion sensor protects your drive from drops. New scrolling feature on trackpad is easy to use.
BAD NEWS: They're not PowerBook G5s. 12-incher may be too small for the big-pawed. 17-incher may be awkward to carry. No PC Card slot on 12-incher. A bit hot for using on your lap.

12-Inch PowerBook G4

PRICE: $1,499 with Combo Drive, $1,699 with SuperDrive (tested)
SPECIFICATIONS: 1.5GHz PowerPC G4, 512MB DDR333 SDRAM, 60GB hard drive on Combo Drive model, 80GB hard drive on SuperDrive model, 12.1-inch TFT display, 1,024 by 768 resolution, 64MB nVidia GeForce FX Go5200, Bluetooth, AirPort Extreme, 10/100Base-T Ethernet, USB 2.0, FireWire 400, analog-audio in/out, mini-DVI out.

MacAddict RATED GREAT

15-Inch PowerBook G4

PRICE: $1,999 with Combo Drive, $2,299 with SuperDrive (tested)

EDITORS' MacAddict CHOICE

SPECIFICATIONS: 1.5GHz PowerPC G4 on Combo Drive model, 1.67GHz PowerPC G4 on SuperDrive model, 512MB DDR333 SDRAM, 80GB hard drive, 15.2-inch TFT display, 1,280 by 854 resolution, 64MB ATI Mobility Radeon 9700, Bluetooth, AirPort Extreme, Gigabit Ethernet, USN 2.0, FireWire 400 and 800, analog-audio in/out, DVI and S-Video out.

MacAddict RATED AWESOME

17-Inch PowerBook G4

PRICE: $2,699
SPECIFICATIONS: 1.67GHz PowerPC G4, 512MB DDR333 SDRAM, 100GB hard drive, SuperDrive, 17-inch TFT display, 1,440 by 900 resolution, 128MB ATI Mobility Radeon 9700, Bluetooth, AirPort Extreme, Gigabit Ethernet, USB 2.0, FireWire 400 and 800, digital- and analog-audio in/out, DVI and S-Video out, dual-link DVI.

MacAddict RATED GREAT

Never Lose Anything Again

Photos, e-mails, graphics, documents. Who knows what you've got hidden away?

NoteBook takes all those snippets and turns them into searchable catalogs of information. Find anything instantly. Publish to the web in one step. NoteBook puts you in the driver's seat.

You can take control.
NoteBook can help.
So why not give NoteBook a try?

Introducing Circus Ponies™ NoteBook

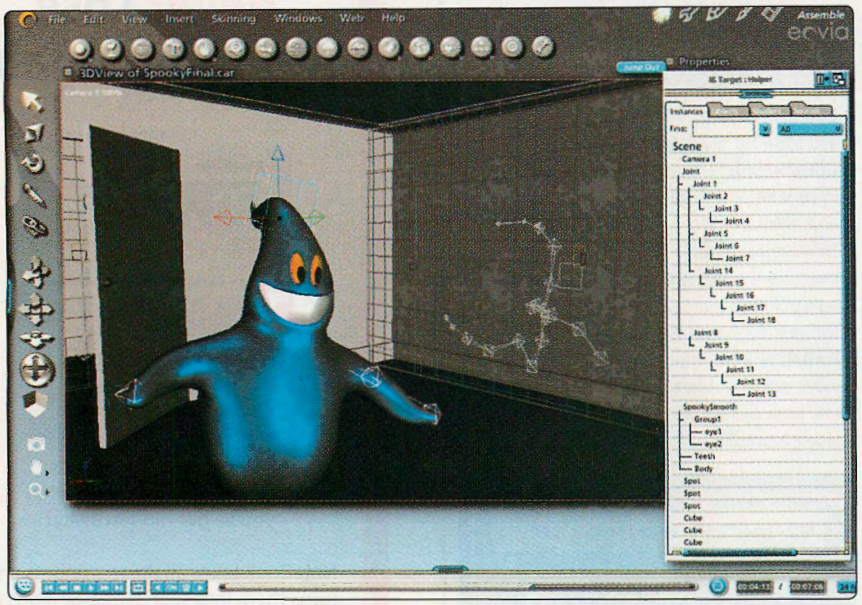
Powerful outlining and organizing for your ideas!

Free demo at
www.circusponies.com

CIRCUS PONIES

MacAddict GREAT · Macworld · mac design · macHOME

© Copyright 2005 Circus Ponies Software, Inc. All Rights Reserved. Circus Ponies, the Circus Ponies logo, NoteBook, and the NoteBook logos and icons are trademarks of Circus Ponies Software, Inc.



Complex character animations in Carrara 4 are easier due to an underlying virtual skeleton that links together body parts.

Carrara 4 Pro

FRIENDLIER 3D SOFTWARE

The latest version of Eovia's 3D-modeling, rendering, and animation application Carrara isn't radically different from previous versions, but the app does have a smattering of additions and tweaks that address Carrara's prior rendering and animation weaknesses.

Added goodies include modeling tools that add a subtle but critical new capability: object manipulators. Click on any object in a scene, and colored selection handles for the x-, y-, and z-axes appear, allowing you to constrain and precisely control scaling, movement, and rotation along a specific axis, making it much easier to do any kind of 3D task. Another important addition is that the keyboard's arrow keys (when pressed along with the Command key) can now nudge an object around; holding down the Shift key allows you to nudge in much finer increments.

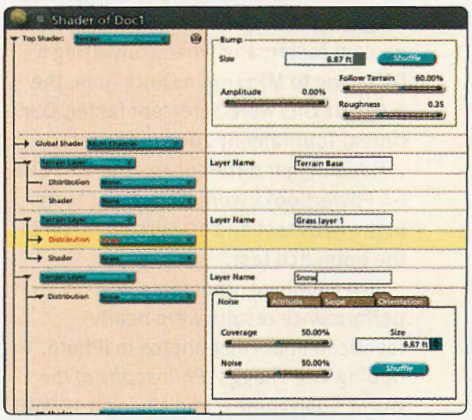
Carrara 4 also adds nice changes to the terrain and sky generators, with larger image meshes supported in the terrain modules (up to 8,192 by 8,192 pixels, which can yield some seriously big, detailed landscapes) and a slick multi-layered terrain-texture module that lets you create advanced rendered effects such as snow (which changes in density based on altitude and slope) or pockets of water at certain elevations. It's not quite as capable as Daz's Bryce ($89.95, www.daz3d.com), but it's still cool. The additions to the sky module significantly improve the look of rendered fog, haze, and clouds, and add to the realism of the atmospherics.

Improved IK. Eovia has tweaked Carrara's inverse kinematics (IK) so that creating convincing walking creatures is much more straightforward. Morph targets make the complex work of animating facial expressions more manageable—your characters will smile more easily, which will make you smile. Eovia has also added the ability to import sound files and place them in the timeline—crucial for syncing movement to sound effects, a critical part of the animation process.

Ultimately, rendering is the true test of any 3D software, and Carrara 4 has lovely additions, including real 3D motion blur and blurry reflections, two visual elements that often mean the difference between a flat animation and one that conveys realism. Turning on these options increases overall rendering time, but—thankfully—the rendering engine in Carrara 4 feels snappier than the one in the previous version (there's no such thing as a renderer that's fast enough).

A new network-rendering feature limits you to five computers (Macs or PCs; both Mac OS X and Windows versions of the software are included), all of which must be present under the same IP subnet mask—so forget about true network rendering using remote machines. Network rendering is also available as a $199 add-on for the less-capable Carrara 4 Standard ($279 download, $299 boxed).

Previous versions of Carrara took over our Mac's entire screen, and this continues to be an issue in Carrara 4. Hopefully, this interface rudeness will change in the next revision.



New natural-terrain options let you layer snow, grass, and rock together in complex ways with minimal effort.

The bottom line. In the realm of mid-priced integrated modeling, rendering, and animation software, Carrara 4 Pro continues to offer a decently balanced compromise between power and usefulness. It appeals to designers looking to punch through their flat 2D world into 3D.—*David Biedny*

COMPANY: Eovia
CONTACT: 650-938-0515, www.eovia.com
PRICE: $579 (download), $599 (boxed)

REQUIREMENTS: 266MHz G3, Mac OS 10.1 or later, 128MB RAM, 300MB disk space

GOOD NEWS: Long-overdue object manipulators and nudge keys. Improved IK and timeline editing.
BAD NEWS: Interface takes over screen. Network rendering limited to five computers.

MacAddict RATED ●●●●○ GREAT

Despite its lack of a hump, this is an SLR camera. Really.

Evolt E-300

INTERMEDIATE SLR CAMERA

When does an SLR not look like an SLR? When it's the Olympus Evolt E-300, a streamlined, eight-megapixel digital SLR that buries the optics required for through-the-lens viewing inside the camera, thus trimming size and weight. The E-300 weighs just two pounds, and that's with its Zuiko f/3.5–5.6 digital 14–45mm lens (equivalent to 28–90mm in 35mm terms), all-aluminum body, rechargeable battery, and CompactFlash memory card (not included).

For an affordable SLR, the E-300 has a good blend of simplicity and sophistication. Beginners can use basic scene settings on the mode dial—portrait, landscape, close-up, action, or night scene—or twirl the dial to Scene to bring up the full 14-scene repertoire on the LCD. Advanced photogs will go directly to aperture or shutter priority, program mode, or full manual mode.

When you're shooting, the E-300's LCD displays information about the shots you're taking—you can't preview an image on the LCD with digital SLRs. Exposure values, flash status, resolution, ISO, white balance, shots remaining, and battery power are displayed in big, bright letters, numbers, and icons—an improvement over the minuscule, hard-to-read LCD info displayed by other cameras.

Is it on? The E-300's buttons and dials are positioned for easy access. The review button is especially convenient, located just to the left of your right thumb. Not so intuitive is the on-off switch lever, which seems to be oriented the wrong way—it's under the mode dial, and instead of pulling it toward you to turn on the camera, you have to fumble past the camera strap to push it away. Another qualm: When framing a shot through the viewfinder, we found it awkward to shift our eyes to the lighted status display that runs down the right side of the viewfinder. We prefer the under-the-image status-display placement found in other SLR cameras.

The camera performed smoothly and produced images with good dynamic range, detail in both shadows and highlights, and accurate color—though we've seen sharper images in higher-end SLRs. Shot-to-shot time was as fast as we could press the shutter release, and focusing was quick and accurate even under low-light conditions. Each time the E-300 is switched on, it's ready to shoot in about two seconds—not as fast as the Nikon D70 (●●●●● Jul/04, p50), but acceptably perky—even though the camera first cleans dust particles off the sensor (Olympus says that the dust collects in a special repository in the camera, and that it could be several years before the repository needs to be emptied—if ever).

The camera's built-in flash does an excellent job on automatic and has a manual option that lets you adjust its intensity. The E-300 has an ISO range of 100 to 1,600, though images get fairly noisy past 400. Other nice features include shutter speeds from 8 minutes to 1/4000 of a second; good resolution choices (1, 2, 5, or 8 megapixels); RAW, TIFF, JPEG, and RAW+JPEG modes; noise reduction (for long exposures); and video out (NTSC and PAL). You can shoot sequences at 2.5 fps, but you can only shoot four pictures in a row—though you can keep shooting single frames while the buffer clears, after which you can rapid-fire another four.

The bottom line. The E-300 isn't a pro SLR camera because it can't withstand grinding, physical punishment. But it is perfectly capable of giving professional-looking results at a nice price. As long as you treat it right, the E-300 will repay you in kind.—*Arthur Bleich*

PHOTOGRAPH BY MARK MADEO

COMPANY: Olympus
CONTACT: 888-553-444, www.olympusamerica.com
PRICE: $999 with lens

REQUIREMENTS: USB-equipped Mac, Mac OS 8.6 to 9.2 or 10.1 or later

GOOD NEWS: Light weight. Top-notch images. Includes high-quality zoom lens. Long-lasting battery.
BAD NEWS: Limited sequence mode. Awkward viewfinder status display. Manual could be more detailed.

MacAddict RATED ●●●●○ GREAT

Business Inkjet 1200d

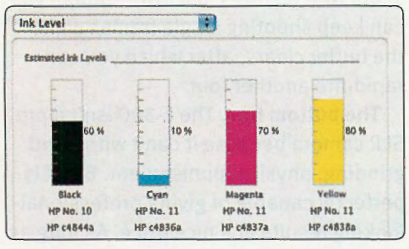
CONVENTIONAL PRINTER

It seems that photo printers are all the rage, but there's still a place for business color inkjet printers such as HP's Business Inkjet 1200d: in an office, where charts, presentations, spreadsheets, and text take priority over road-trip photos (which, actually, the 1200d handles pretty darn well, as we'll discuss in a minute).

We looked at the $199 USB 2.0–equipped 1200d, which holds 150 pages and is suitable for a small office. HP offers four different models of the 1200, and that means delving into HP's nomenclature mumbo-jumbo. The 1200dn ($249) has built-in 10/100Base-TX Fast Ethernet so you can hook it up to your office network. The $299 1200dtn is a 1200dn with a second, 250-page paper tray for a total capacity of 400 pages. And for $349, there's the 1200dtwn, which is a 1200dtn with Wi-Fi (802.11b and 802.11g).

Setting up the 1200d took us less than 30 minutes—and we weren't in a big rush. It uses four individual ink cartridges: black, cyan, magenta, and yellow; there's no light magenta, red, matte black, or any of the additional inks you often see in inkjet photo printers. The print heads are separate from the ink cartridges, and they are installed in a separate carriage. The nice thing about having all the ink cartridges and print heads separate is that you can replace only what you need to replace. Replacement ink cartridges and print heads are $33.99 each.

While the 1200d can print on plain paper, special kinds of inkjet paper are available to get the best results. HP's Premium Inkjet Paper (200 sheets, 8.5 by 11 inches) is $20.99; HP's glossy Premium Photo Paper (15 sheets, 8.5 by 11 inches) costs $9.99; and a pack of HP's matte Brochure and Flyer Paper (50 sheets, 8.5 by 11 inches) is $9.99.



Find out how much ink you have left using the included HP Inkjet Toolkit utility.

Speed and image quality. The 1200d is rated at 9 pages per minute (ppm) for black in normal quality mode; we got 6.2 ppm when printing a 50-page Word document—our times are from click (when you click Print) to clunk (when the print is done), so they include whatever image processing needs to be done on your Mac. When printing a 15-page, full-color PowerPoint presentation, the 1200d averaged 1.5 ppm, notably pokier than its rated 4 ppm—and that was when we were printing from a dual 2GHz Power Mac G5. A two-page Excel spreadsheet took 45 seconds. We were quite pleased with the 1200d's speed for business documents; no, it's not as fast as a monochrome or color laser, but it's also not nearly as expensive.

The 1200d's image quality is good for an inkjet printer. On HP's Premium Inkjet Paper, you get crisp and clean lines; on plain paper, you get not-so-clean lines. The color accuracy in our PowerPoint presentation was excellent; we didn't see any color shifts, but we did notice minor banding in color gradients.

Printing an 8-by-10-inch photo (you can't do borderless prints) in Photoshop took about eight minutes, which is mighty darn slow when compared to a speed-demon inkjet such as the Canon i9900 Photo Printer (●●●●○ Nov/04, p46). The 1200d reproduced images containing metallics, dyed cloth, and bright colors well, but more natural tones, such as skin and earth tones, lacked consistency and warmth. Remember, the 1200d isn't designed for photo output; if your photo-printing demands ever start to grow, consider having a dedicated photo printer sit next to your 1200d.

Remember when inkjet printers used only four ink colors? The 1200d does.

PHOTOGRAPH BY MARK MADEO

The bottom line. If you're mostly printing charts, text, and slide presentations, and you're printing less than 150 pages per week, you'll be happy with the 1200d. It just works—and works well.—*Roman Loyola*

COMPANY: Hewlett-Packard
CONTACT: 800-752-0900, www.hp.com
PRICE: $199

REQUIREMENTS: USB-equipped Mac, Mac OS 9.x or 10.1 or later

GOOD NEWS: Easy to use. Fast. Built-in duplexing.
BAD NEWS: Slow photo-printing speeds. Low paper capacity for an office with high printing demands.

MacAddict RATED ●●●●○ SOLID

Insert iPod®. Hear what happens.

Introducing the new Bose® SoundDock™ digital music system.

Slip your iPod into the Bose SoundDock digital music system and something wonderful happens. Your music comes pouring out in rich, head-turning detail.

New from Bose, the most respected name in sound, this slim, sleek digital music system is ready to revolutionize the way you use your iPod and iPod mini.*

Bose SoundDock digital music system (shown with iPod mini)

Hearing is believing.

It may look small. But to your ears, the SoundDock system is anything but. It's packed inside with a proprietary Bose acoustic design that allows it to produce a roomful of rich, natural sound. Ric Manning of the Gizmo Page says, "The Bose SoundDock turns an iPod into a room-filling stereo." And *CNET* calls it the "best-sounding iPod speaker accessory we've tested." Impressed? Just wait until you experience our SoundDock system for yourself.

Get more out of your iPod.

Once you get all your favorite music into your iPod, the SoundDock system gives you another way to get it out. Just plug it in, slip your iPod into the docking cradle and you're ready to share and enjoy your music in almost any room in your home. Kitchen. Bedroom. Wherever. A small remote lets you operate it – as well as basic iPod functions – from across the room. And the SoundDock system charges your iPod while you listen. So when you're ready to hit the road, you can just pick up your iPod and go.

FREE Shipping with your order.

Listen. You need to hear the SoundDock system for yourself.

We'll give you – and your friends – 30 risk-free days to experience the SoundDock digital music system in your own home. Listen. Enjoy. And get permanently attached.

TO ORDER OR LEARN MORE, CALL TODAY

1-800-905-1436

EXT. RD104

Or visit

sounddock.bose.com

©2005 Bose Corporation. Patent rights issued and/or pending. *The SoundDock system requires iPod with dock connector. iPod not included. iPod is a trademark of Apple Computer, Inc. registered in the U.S. and other countries. All other marks are property of Bose Corporation. Free shipping offer not to be combined with other offers or applied to previous purchases, and subject to change without notice. Risk free refers to 30-day trial only and does not include return shipping. Delivery is subject to product availability. Quotes are reprinted with permission: The Gizmo Page from the *Courier-Journal*, 10/2/04; David Carnoy, *CNET*, 10/13/04.

BOSE®

Better sound through research®

Treo 650

ELEGANT PHONE AND PDA

The Palm OS–based Treo has always been the best PDA-and-cell-phone combination on the market, and the latest version, the Treo 650, features refinements that make it even better than the Treo 600: a lovely 320-by-320-pixel TFT screen and convenient (but slow) Bluetooth that lets you sync wirelessly to your Mac using iSync.

Other improvements include a removable battery, the addition of call and end buttons (making the Treo feel more phone-like), and the ability to take pictures of people and then add their mugs to your address book—a great tool to ensure you weren't just beer-gogglingly addled the night before. Although the camera is still only VGA quality, palmOne has improved its low-light performance and added video capture and 2X digital zoom.

Place an IM. The included email client, VersaMail, was a breeze to set up—all we had to do was tell it we had a .Mac account, and the app took care of all the settings. One bummer is the lack of an instant-messaging client—you'll have to download the $25 VeriChat app, which lets you chat on every major IM service.

Although the Treo 650 includes a QWERTY keyboard, it's still not conducive to writing your Great American Novel. As you'd probably guess, the keys are a bit tight, and typing can get tiresome—you'll quickly learn to live with typos. Also, there's only 23MB of user-available memory, which doesn't leave much room for videos, pictures, music, or games. There is an SD card slot, but is it really that much to ask for a few more built-in megs?

Why can't all PDA/phone combos be as nice as this one?

The bottom line. We're willing to forgive the Treo 650's imperfections because it's still the most elegant fusion of cell phone and PDA available.—*Cathy Lu*

EDITORS' MacAddict CHOICE

COMPANY: palmOne
CONTACT: 800-881-7256, www.palmone.com
PRICE: $599 (without service activation)

REQUIREMENTS: USB-equipped Mac, Mac OS 10.2 or later

GOOD NEWS: Beautiful high-resolution screen. Bluetooth. Feels like a phone.
BAD NEWS: Key spacing a bit tight. Paltry built-in memory.

MacAddict RATED GREAT

PHOTOGRAPH BY MARK MADEO

Primatte Chromakey 2.0

TIMESAVING PHOTOSHOP PLUG-IN

Digital Anarchy's Primatte Chromakey 2.0 is a clever Adobe Photoshop plug-in that slashes masking time (removing unneeded portions of an image). Chromakey takes any image shot against a solid backdrop (blue and green are typically used, but any solid color works) and replaces the backdrop with any digital image you choose.

Before you use Chromakey, you must set up your image layers with your subject in the foreground and your new background in a layer beneath that. Chromakey then creates a mask in your subject's image that removes the colored background and replaces it with a transparent area. You can then clean up the mask by holding down your mouse button and scrubbing the areas that need to be cleaned.

Chromakey makes your green-screen images easier to mask.

This is just the simplest type of mask Chromakey can do. The ability to pull out color through the transparent area of a photo (such as glass or lace) or clean up wispy hair is truly inspiring. These are still time-intensive tasks in Chromakey, but they're quicker than manual masking.

Spill cleaner. When light bounces off the background onto your subject, green or blue tones invade your image—this is called *bluespill*. Chromakey lets you see your subject against any color so the blue or green spill areas become more apparent; you can then eliminate those trouble areas using Chromakey's Spill Sponge. Pan and zoom features let you get in close and check selections.

The bottom line. Chromakey may be expensive for serious amateurs, but it's money well spent for pros. We'll spend the time we saved using Chromakey watching our new DVD set of *The Wire*, trying to find out how Poot and Bubbles got their nicknames.—*Steven Parke*

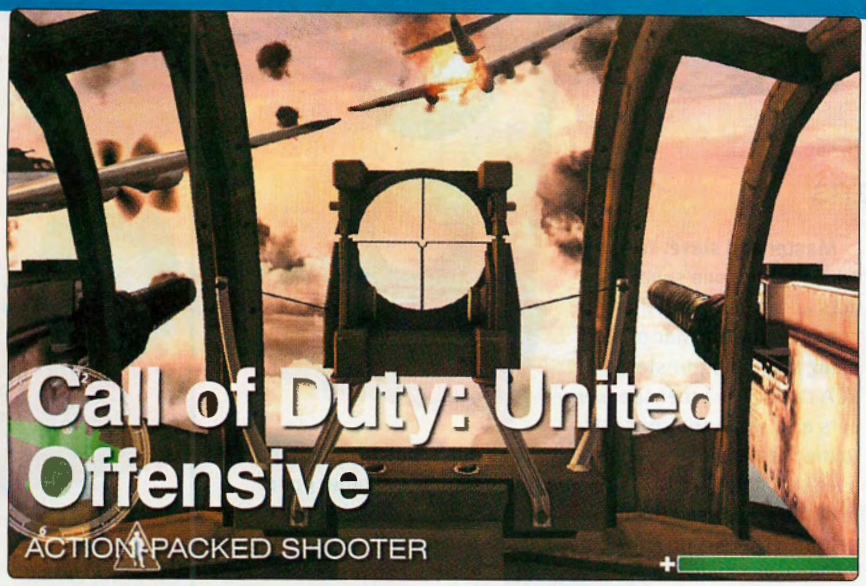
9

COMPANY: Digital Anarchy
CONTACT: 415-586-8434, www.digitalanarchy.com
PRICE: $299

REQUIREMENTS: Mac OS 9.2.2 or X or later, Adobe Photoshop 5.5 or later, Adobe Photoshop Elements 2.0 or later

GOOD NEWS: A great timersaver. Masks are fun again! Easy to use.
BAD NEWS: Pricey for non-professionals.

MacAddict RATED GREAT



It's initially awe-inspiring to man the guns of a B-17 Flying Fortress, but shooting down endless Nazi planes gets old quick.

Aspyr's Call of Duty (●●●●● Sep/04, p52) is one of the best first-person shooters ever made, and its United Offensive expansion pack doesn't disappoint. Like the original game, United Offensive puts you in the boots of American, Soviet, and British soldiers during World War II—only this time, the missions feel bigger and better in a budget-bustin' Jerry Bruckheimer kind of way.

Case in point: You start in the Ardennes Forest with 101st Airborne Division, holding the line against a German counterattack. The forest seems to stretch for miles as tanks barrel down, artillery shatters trees, bombers drop their payloads, and dozens of soldiers engage in hand-to-hand combat in the foxholes. The Ardennes mission is truly epic, but United Offensive packs plenty more moments that generate the same warm, tingly sense of awe. The only downside is that the missions are heavily scripted (events always happen in a certain order and at certain times), reminding you that you're just in a game and not actually in the middle of life-threatening action.

Airborne. United Offensive takes Call of Duty to the air for the first time by way of a British B-17 Flying Fortress. The airborne visuals are stunning, but the airborne gameplay is uninspired. You don't pilot the craft; you simply man the guns and pick off endless Nazi planes, so it gets old fast. We wanted to bomb targets down below.

New weapons include a big 0.30-caliber machine gun—set it on the ground (or window ledge or car hood), and then spray a frightful torrent of lead. Flamethrowers give you yet another way to dispense Allied justice. As for graphics, there are plenty of small upgrades to boost the game's cinematic feel—new fire and smoke effects add to the intensity, small sparks now erupt as bullets hit metal surfaces, and you can even shoot away picket fences. Cool.

The bottom line. As much as we like United Offensive, our one complaint is that it doesn't break much new ground. We again wonder why there are no civilian noncombatants on the battlefield. Also, we're ready to play a role other than a rifleman—maybe a medic, an artillery spotter, or a stealthy French resistance fighter. There's still plenty of material to be mined, but it looks like we'll just have to wait for Call of Duty 2.—*Helmut Kobler*

COMPANY: Aspyr
CONTACT: 888-212-7797, www.aspyr.com
PRICE: $29.99

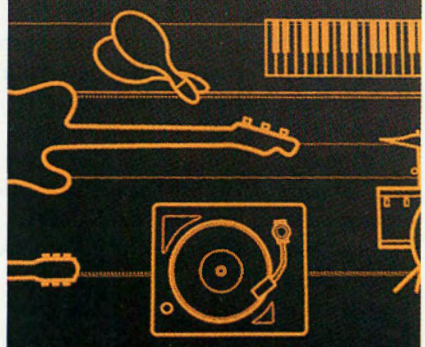
REQUIREMENTS: 867MHz G4, Mac OS 10.2.8 or later, 256MB RAM, 32MB ATI Radeon 7500 or nVidia GeForce 2 graphics card, 1.4GB disk space, original Call of Duty game

GOOD NEWS: Amazing action. Lots of missions. Runs well on mid-level Macs and 'Books.
BAD NEWS: Disappointing airborne mission. No new game innovations.

MacAddict RATED ●●●●○ GREAT

UltimateSoundBank
instruments of simplicity

SONICBOOM BOX™



ELECTRIFY Your GarageBand™

- Over 4,000 Apple Loops
- HipHop, House, Rock, Metal, Reggae, Jazz, Latin, Funk, Soul, ...
- 222 Software Instruments with a Customized User Interface
- Keyboards, Guitars, Bass, Brass, Drums, Percussion, ...

$99

ILIO
800.747.4546 www.ilio.com
Exclusive distributors

Callisto mk II

BRAWNY YET PRECISE SPEAKERS

They don't match your Mac, but damn, they sound good.

Serious audiophiles gripe that mass-produced computer speakers suck, compromising sound quality in favor of cabinet designs that conserve desk space and match your computer. The folks at Jupiter Audio, on the other hand, care deeply about sound quality. With their Callisto mk II speakers, superior sound comes first—desk space be damned.

The big, boxy mk II speakers certainly draw attention away from whatever you have on your Mac screen. Each mk II cabinet is made of medium-density fiberboard with an oak or black-oak finish and measures 11.63 inches tall, 6.25 inches wide, and 8.75 inches deep. The Aurasound 3-inch woofer and Seas shielded dome tweeter are exposed on the face of each speaker, calling even more attention to the mk IIs.

Master and slave. With the mk II system, one speaker acts as a master unit that connects to your Mac or iPod using a miniplug-to-stereo RCA cable. The other speaker acts as a slave and connects to the master via a standard speaker cable, like those used in home stereo and theater setups. (There is no subwoofer.)

Once we set up the speakers and heard the Mac startup sound confirm that they were working, we launched iTunes and played a variety of songs. From rock to rap to rondos, the mk II produced a warm, full-bodied sound that made us feel good about our eclectic tastes in music. We bet that you won't miss the subwoofer—the mk IIs have a range wide enough to handle songs that call for thumping bass. The tweeters can produce sweet clarity, so you don't miss anything in the high end, either. We didn't hear any sound difference when we used an iPod with the mk II.

The bottom line. With a hefty $799 price, the mk II set may be too expensive for casual users. But if you take your sound seriously, you'll love 'em—even if they don't look particularly high-tech. *—Roman Loyola*

COMPANY: Jupiter Audio
CONTACT: 630-649-4329, www.jupiter-audio.com
PRICE: $799

REQUIREMENTS: Mac with audio-out port, Y-adapter cable, speaker cable

GOOD NEWS: Awesome, full-bodied sound.
BAD NEWS: Wood cabinets may not appeal to those who want to match components to their Macs. Expensive.

MacAddict RATED 4 of 5 GREAT

PHOTOGRAPHS BY MARK MADEO

DJ Console

TOTABLE AUDIO MIXER

Tough enough for the DJ on the go.

Hercules' DJ Console replaces your turntable and mixer with a small USB-powered box that has a mixer and turntable-like wheels similar to those found on CD DJ decks. The Console is a good idea—but it has a few limitations.

The Console has loads of inputs and outputs, including MIDI, 5.1 audio, and S/PDIF. It also has front-panel RCA line-in ports, plus a 0.25-inch phono-plug mic-in port and 0.25-inch headphone jack, each with individual level controls.

The Console's controls are similar to those found on a CD turntable. For manual beat matching, the Console features easy-to-use Pitch Bend buttons. Mixing vets will love the FX buttons that allow the Console to emulate some sweet voltage-controlled effects, identical to those found on the Allen & Heath Xone professional-grade mixers (www.allen-heath.com).

Power Traktor. The Console comes with a custom version of Traktor DJ Studio, the industry leader in DJ software—and it's a kick to use. Traktor finds all playable media on your Mac, loads them into its library, and allows you to select songs via the Console's handy joystick and song-select buttons.

When it comes to scratching, the latency of the jog wheel—even when minimized in Preferences—is so far behind what is actually playing that it makes scratching impractical. Plus, the Console doesn't have a cross-fader that allows a hard cut from channel to channel, which is essential for scratching. We also found the buttons to be extra sensitive; we often triggered the Play/Pause button twice when we only pressed it once.

The bottom line. You won't scratch up a DJ QBert–like storm with the Console, but you'll do well when you're in the mix. *—Noah Tsutsui*

COMPANY: Hercules
CONTACT: 514-279-9960, http://us.hercules.com
PRICE: $299

REQUIREMENTS: 1GHz G4, Mac OS 10.2.6 or later, 256MB RAM, 1GB disk space, Internet connection

GOOD NEWS: Small and durable. A myriad of inputs and outputs. USB powered. Traktor software is awesome.
BAD NEWS: Limited scratching capabilities.

MacAddict RATED 4 of 5 SOLID

VerticalMouse 2

COMFORTABLE UPRIGHT MOUSE

Your typical mouse is designed for horizontal use; the buttons and body are crafted based on the notion that you hold a mouse with your palm facing down. Evoluent says this is an unnatural, twisted, and tense position for your arm—sooner or later, you're bound to feel uncomfortable. Evoluent's VerticalMouse 2 puts your arm in a more natural position by using an unusual vertical design.

It takes some time to get used to the look and feel of the VerticalMouse, especially if you've been a Mac user for years. You grip the mouse like you're giving it a handshake, which feels comfortable if you're simply resting your hand on the mouse. When you start to move the mouse around, however, the motion seems foreign—it's not that it hurts or feels unpleasant, it's just that you're going against a learned behavior. It took us a day or two to adjust, but once we did, the VerticalMouse became second nature.

Looks odd, but feels natural.

Button bummer. The VerticalMouse has five buttons: one for your thumb on the left side and four on the right side (including a clickable scroll wheel). Without driver software, however, you can only use two buttons in OS X and one in OS 9. To program the other buttons, you need to buy USB Overdrive ($20, www.usboverdrive.com).

We liked the precise tracking of the mouse, thanks to its 1,000-dpi optical sensor. The scroll wheel rolls smoothly and is easy to use in a vertical position. If you're a southpaw, however, you'll have to pay a premium: The left-handed version of the VerticalMouse costs $30 extra.

The bottom line. Thanks to the VerticalMouse 2, we no longer have to end our marathon gaming sessions because of tired wrists. That's a good thing ... we think.—*Roman Loyola*

PHOTOGRAPH BY MARK MADEO

COMPANY: Evoluent
CONTACT: 516-872-1250, www.evoluent.com or www.team-prestige.com
PRICE: $74.95, $104.95 (left-handed version)

REQUIREMENTS: USB-equipped Mac, Mac OS 9.1.4 or 10.1 or later

GOOD NEWS: Comfortable—once you get used to it.
BAD NEWS: You have to pay an extra $20 for software to program all the buttons. Left-handed version costs $30 more.

MacAddict RATED GREAT

Take Your Digital Photos Beyond the "Ken Burns Effect"

Photo to Movie™ incorporates a powerful version of the "Ken Burns effect" to bring photos alive with motion. Photo to Movie also lets you add music tracks, voice narration, and a variety of slide-to-slide transitions. Exported movies can be imported to iMovie™, burned to DVD, posted on the Web, and even emailed.

Download a FREE trial version of Photo to Movie today and get ready to be amazed. Experience Photo to Movie's powerful features for yourself. Visit our web site for details. Retail price $49.95

Sold at these and other retailers:
Apple Stores, Fry's Electronics, Amazon.com and J&R

"It's simple and does what it does better than any other."
Mac360.com

"I've gotten more favorable comments on my project than anything I've done to date."
Gregg, Photo to Movie user

MacAddict RATED GREAT
June 2003 / Previous version

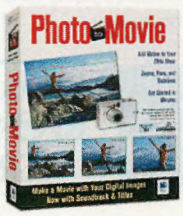


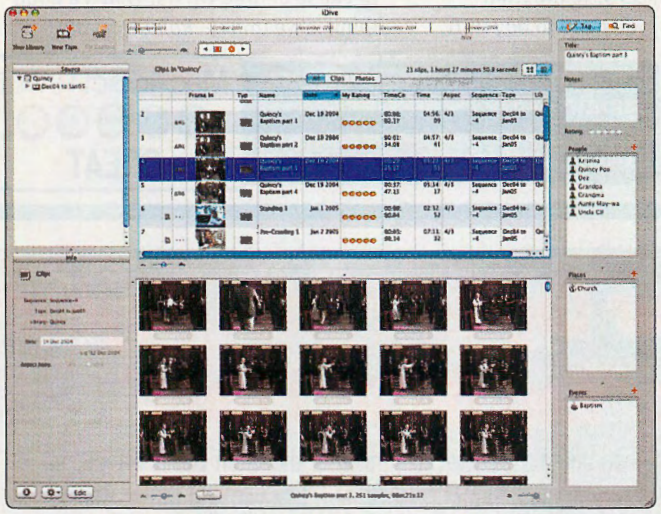
Photo to Movie
www.phottomovie.com
LQ GRAPHICS IMAGING SOFTWARE

iDive

INVALUABLE VIDEO-MANAGEMENT SOFTWARE

The trickiest part about editing video in Final Cut Pro or iMovie—organizing your taped footage for a project—just got a whole lot easier. iDive manages your footage by using frame samples and customizable annotations so you know what's in each and every shot in your tape collection.

iDive works by keeping a list of the videos you've digitized through iDive. If you have a ton of tapes to index (and not a lot of hard drive space), you can perform a sampled-video capture, in which iDive records frames at an interval you set (every 1, 2, 5, 10, or 20 seconds). You can use the catalog to find the tape with the clip you want, and then digitize the entire video in your editing application.



Finally, software that does what Final Cut Pro and iMovie don't do: manage your video clips.

Blessed with lots of storage, or only have a few tapes? You can digitize your videos at full quality and then export them to Final Cut Pro or iMovie by simply dragging the clip from iDive into your editing app—it works seamlessly. One major caveat: You can't import previously digitized videos into iDive. That sucks, but an Aquafadas rep says the company's working on an upgrade that will make it possible.

Find it fast. There are two ways to view your video catalog in iDive. The icon view uses a frame from your video to represent your clip, while the tabular view lists a thumbnail and associated metadata, such as length, timecode, format, and aspect ratio. If you click on a video in your thumbnail list, you can preview the frames of your video in the pane below the list.

iDive's annotation tools are great for sifting through your videos. Each video has Title, Date, and Notes fields, and you can create lists of people, places, and events to associate with your videos (though we encountered a glitch where we couldn't change the name of a person unless we relaunched the app; Aquafadas says it's aware of the problem). To find a clip, you just enter a keyword into the search box and press the Return key. iDive then lists the associated videos.

The bottom line. iDive fills a gaping hole in video production with your Mac. Now that we know what our stacks of mysterious MiniDV tapes actually contain, they no longer scare us.
—Roman Loyola

COMPANY: Aquafadas Software
CONTACT: www.aquafadas.com
PRICE: $69.95

REQUIREMENTS: Mac OS 10.3 or later, 256MB RAM, 5MB disk space (plus 20MB to 120MB disk space per hour of digital video)

GOOD NEWS: Easy to use. Drag-and-drop compatibility with Final Cut Pro and iMovie.
BAD NEWS: Minor interface quirks. Can only log video digitized through iDive.

MacAddict RATED GREAT

We liked the wired version a tad better.

The Mouse BT

ATTRACTIVE WIRELESS MOUSE

We loved MacMice's The Mouse (●●●●● Mar/04, p61), and now there's a wireless version—The Mouse BT. The BT stands for Bluetooth, so you'll need either built-in Bluetooth or a Bluetooth adapter, which isn't included—MacMice recommends D-Link's DBT-120 Wireless USB Bluetooth Adapter ($45, www.dlink.com). You can use Mac OS X's drivers or MacMice's MouseCommand to tweak your mouse settings, but neither can tell you the status of the mouse's battery. Better have those spares ready.

Some of us here at *MacAddict* enjoyed using The Mouse BT; others didn't like the feel—it's a lot like Apple's wireless mouse, only with two buttons instead of one. The scroll wheel is delightfully smooth, but if you like scroll-wheel notches, know that the BT doesn't have 'em.

The bottom line. The simple fact that The Mouse BT has two buttons and a scroll wheel is reason enough to opt for this mouse over Apple's wireless Bluetooth mouse ($59, www.apple.com). And it looks nice, too.
—Roman Loyola

COMPANY: MacMice
CONTACT: 615-822-9270, www.macmice.com
PRICE: $69.99
REQUIREMENTS: Bluetooth-equipped Mac, Mac OS 10.2.8 or later

GOOD NEWS: Attractive. Smooth scroll wheel.
BAD NEWS: Doesn't provide battery-level information.

MacAddict RATED GREAT

PHOTOGRAPH BY MARK MADEO

MTX: Mototrax is super-fun supercross.

MTX: Mototrax

FUN BUT PHONY DIRT-BIKE RACING GAME

As wannabe dirt-bike riders, we couldn't wait to get our hands on Aspyr's MTX: Mototrax. Will its combination of tight-arena supercross racing, wide-open outdoor motocross racing, and trick riding prepare you for a career on the circuit? Nope. Mototrax's forte is providing thrills, not realism.

MTX: Mototrax starts you off with a private riding lesson from pro racer Travis Pastrana—a good way to learn the game's mechanics and physics. He teaches you how to handle your bike, takes you on a practice race, and then sends you on your way. On the racing circuit, there are eight motocross and eight supercross tracks in venues ranging from Arizona to Australia, which you attack in four classes (the 125cc qualifier, plus 250cc East, West, and Master classes); you have to win each series before getting to your ultimate goal: the X Games.

Digital controls. You can control your bike with either a USB gamepad or your keyboard. We found it easier to use the keyboard to goose the throttle, lean into a turn, or pull back a wheelie. Even when we assigned turning to the joystick or d-pad on various gamepads, it felt like an on-or-off deal with no gradation.

Another break from reality is the game's marquee feature: big-air jumps—specifically, how you control them. Mototrax uses a suspension-compression system (there's an on-screen compression-level indicator) that lets you control how high and far you jump by properly compressing and releasing the springs—it actually requires precision, unlike the throttle and turning controls.

TIP

RIDE THE CLUTCH

Forget what your driver's-ed teacher said. For the fastest starts in MTX: Mototrax, hold down both the accelerator and clutch, and when the start gate drops, pop the clutch. Tapping the clutch also helps you negotiate the corners.

Our 1.25GHz PowerBook with 64MB of VRAM gave us smooth gameplay once we turned off anti-aliasing and lowered the resolution to 640 by 480. Our 1.8GHz G5 with a fat 256MB Radeon 9800 video card gave us perfect fluidity with all the eye candy enabled.

The bottom line. If you're into two-wheeled motor sports, then MTX: Mototrax is the only game in town—and its low-cost/high-fun ratio helps its rating.—*Niko Coucouvanis*

COMPANY: Aspyr
CONTACT: 888-212-7797 or 512-708-8100, www.aspyr.com
PRICE: $19.99
REQUIREMENTS: 1GHz G4, Mac OS 10.2.8 or later, 256MB RAM, 32MB ATI Radeon 7500 or nVidia GeForce2 MX video card or better, 1.4GB disk space

GOOD NEWS: Loads of fun. Not too tough.
BAD NEWS: Not very realistic. Gamepad support is weak.

MacAddict RATED GREAT

TrayDock

HANDY HARD-DRIVE ENCLOSURE

EDITORS' MacAddict CHOICE

Need more storage space, but don't want to pay for extra enclosures, drive controllers, or FireWire 800 circuitry for multiple external drives? Then check out WiebeTech's TrayDock, a sophisticated, sturdy metal case made to house ATA or Serial ATA hard drives on easy-to-install removable trays.

It's simple to install a drive mechanism into a tray—just flip open a metal switch, slide out the tray, and attach the drive. When you slide the tray back in, you can lock it for protection against thievery. We loved the look of the case, but we were bummed to find minor scratches on its surface after some handling.

The TrayDock has a USB 2.0 port and a pair of FireWire 800 ports, though you'll need to buy a FireWire 800–to–FireWire 400 cable if your Mac supports only FireWire 400

One enclosure. Multiple slide-'em-in drives.

(WiebeTech offers a three-footer for $19.95). After you connect the TrayDock to your Mac, you can hot swap drives; you can buy extra trays (for $49.95 each), fit them with drives, and slide them in and out of the TrayDock without shutting down your Mac. WiebeTech also sells the TrayDock with drives installed (check out www.wiebetech.com/products/traydock.php).

The bottom line. The TrayDock may be more expensive than some external drives, but once you start a-slippin' and a-slidin' multiple trays, it's well worth the cash.—*Roman Loyola*

PHOTOGRAPH BY SAMANTHA BERG

COMPANY: WiebeTech
CONTACT: 866-744-8722, www.wiebetech.com
PRICE: $169.95 (without hard drive)
REQUIREMENTS: Mac OS 9.1 or X or later, 32MB RAM

GOOD NEWS: Sturdy. Removable. Tray is hot-swappable.
BAD NEWS: Case surface not scratch resistant.

MacAddict RATED GREAT

Picture Rescue

EMERGENCY PHOTO-RECOVERY UTILITY

Under the right conditions, Prosoft's Picture Rescue can help you recover some of your photos from your camera's flash memory card after they've been lost during a freak hardware meltdown or an act of sheer knuckleheaded-ness.

Picture Rescue is darn simple to use. Its main window consists of three controls: a pull-down menu for media selection, an Erase button, and a Start button to initiate a scan. Connect your digital camera (or media card via card reader) to your Mac, and Picture Rescue automatically detects the cards. Next, choose a card and click Start. In mere minutes, thumbnails of your recoverable images appear in the Image Recovery Window. Select the photos you want and save them to your hard disk. Done.

Results vary. There are, however, times when you can't recover a picture. For example, if you take twenty photos, erase your card, and then take another ten pics, Picture Rescue won't find the shots that have been overwritten. If you format your cards on your digital camera after each session, Picture Rescue may not find anything at all. For example, Olympus and Fuji cameras completely erase all data during a format, so there's no chance of recovering photos. We confirmed this on our trusty old Olympus C-211.

Deleted a pic you didn't mean to? Picture Rescue to the rescue!

The bottom line. Like a lot of emergency utilities, you'll consider Picture Rescue a godsend if and when you successfully use it. It's a bit pricey at $60, but if you're able to recover at least a few precious photos, it'll be money well spent.—*Gil Loyola*

COMPANY: Prosoft Engineering
CONTACT: 925-426-6100, www.prosofteng.com
PRICE: $59.99
REQUIREMENTS: Mac OS 10.2.3 or later

GOOD NEWS: Easy to use.
BAD NEWS: May not help in some cases. Pricey.

MacAddict RATED ●●●●○ GREAT

PHOTOGRAPHS BY MARK MADEO

AirPlay

FUNCTIONAL FM TRANSMITTER

We've found yet another FM transmitter for the iPod that we like: XtremeMac's AirPlay. We also liked Sonnet Technologies' PodFreq (●●●●○ Aug/04, p58) and Monster Cable's iCarPlay (●●●●○ Mar/05, p48). It's nice to know that there are real choices out there, especially since many other FM transmitters don't work well.

AirPlay plugs into the earphone jack of your iPod. Find an empty station on your radio, set the AirPlay to the same station, and you're good to go. AirPlay draws its power from your 'Pod, which means your battery life shorten—but not by much.

It's small. It's cheap. It works. 'Nuff said.

The bottom line. AirPlay doesn't let you save station settings. But hey, it's cheap and works just fine.—*Roman Loyola*

COMPANY: XtremeMac
CONTACT: 954-385-9877, www.xtrememac.com
PRICE: $39.95
REQUIREMENTS: Third- or fourth-generation iPod, iPod photo, or iPod mini

GOOD NEWS: Easy to use. Small.
BAD NEWS: No way to set station presets.

MacAddict RATED ●●●●○ GREAT

H-D70 FlipUp

INEFFECTIVE SUNSHADE

Although Hoodman makes some great products, the H-D70 FlipUp—a sun visor and LCD protector for Nikon's D70 digital SLR—isn't one of them. Also available for Canon's EOS Digital Rebel, 20D, and 10D; Fuji's S2; and Nikon's D2Hx and D100; the FlipUp is intended to shade the D70's LCD from sunlight, making it easier to read outdoors. In reality, the shading effect is minimal. The FlipUp protects the delicate LCD well, but so does the plastic shield provided by Nikon.

Looks great. Too bad it doesn't work well.

The bottom line. Stick with one of Hoodman's fully enclosed LCD hoods and magnifiers—they work great. The FlipUp, unfortunately, doesn't.—*Rik Myslewski*

COMPANY: Hoodman
CONTACT: 800-818-3946 or 310-222-8608, www.hoodmanusa.com
PRICE: $29.95
REQUIREMENTS: Nikon D70

GOOD NEWS: Solidly built. Protects LCD.
BAD NEWS: Doesn't block much light.

MacAddict RATED ●●○○○ SO-SO

theHotList

THE BEST OF THE BEST FROM RECENT REVIEWS

SHOPPING? HERE'S WHAT WE RECOMMEND

NEW THIS MONTH

Blizzard World of Warcraft

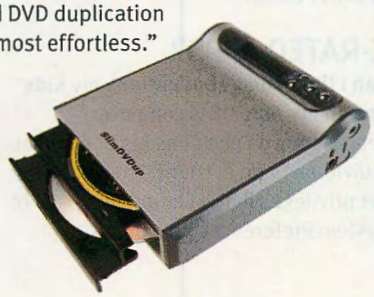
Reviews Editor Roman Loyola calls this massively multiplayer online role-playing game "one of the best games we've played—ever."

Canary Wireless HS10

Warchalker extraordinaire Noah Tsutsui calls this Wi-Fi finder "a great device both for finding hotspots ... and testing a home or office connection."

ILY SlimDVDup

Roman Loyola says that this standalone device makes CD and DVD duplication "almost effortless."



SOFTWARE

AUDIO			
Ableton Live 4	$499.00	Jan/05, p43	This top real-time sequencer now has improved MIDI powers.
Bias SoundSoap Pro	$599.00	Jan/05, p42	Got noise in your video? Here's the app to clean it up.
Native Instruments Reaktor 4	$559.00	Jun/04, p56	If you can imagine a sound, you can create it with this synth.
GAMES			
Aspyr Call of Duty	$49.99	Sep/04, p52	This shooter has tons of action, detailed locales, and fun.
Blizzard World of Warcraft	$49.99	Apr/05, p40	This rich online role-playing game is more addictive than nicotine.
Feral Interactive XIII	$55.00	Oct/04, p52	This mission-based shooter has an old-style comic book feel.
MacSoft Halo: Combat Evolved	$49.99	Mar/04, p38	It's as awesome as your Xbox buddies say it is.
MacSoft Unreal Tournament 2004	$39.99	Jun/04, p48	The best first-person shooter adds new vehicles and weapons.
GRAPHICS & LAYOUT			
Adobe InDesign CS	$699.00	Feb/04, p46	More features and easier navigation make layout a snap.
Adobe Photoshop CS	$649.00	Feb/04, p44	Just when you thought Photoshop couldn't get better, it did.
Adobe Photoshop Elements 3.0	$89.99	Mar/05, p36	Adobe's affordable image editor gets a significant upgrade.
Corel Painter IX	$429.00	Feb/05, p38	This natural-media champ is now faster and more capable.
Macromedia Dreamweaver MX 2004	$399.00	Jan/04, p48	Our favorite Web-design tool adds improved CSS support.
Nik Multimedia Color Efex Pro 2.0	$299.95	Jan/05, p41	You'll be amazed by this plug-in's filters and darkroom effects.
Strata 3D CX	$695.00	Dec/04, p43	Whether you're a 3D newbie or expert, this app's for you.
PRODUCTIVITY & UTILITIES			
Bare Bones Software BBEdit 8.0	$199.00	Jan/05, p36	By far the most powerful text editor money can buy.
FileMaker Pro 7	$299.00	Jul/04, p46	A complete rewrite vaults this database into the big leagues.
Microsoft Office 2004	$399.00	Aug/04, p42	Enhancements to every app add up to a worthy upgrade.
VIDEO & ANIMATION			
Adobe After Effects 6.5	$699.00	Sep/04, p46	This upgrade is strong enough to be called version 7.
Discreet Combustion 3	$995.00	Sep/04, p47	If you're serious about video compositing, get this software.
Vidvox Grid2	$75.00	Feb/05, p39	Join the VJ ranks with this MIDI-capable video-mixing software.

HARDWARE

ACCESSORIES			
Apple AirPort Express	$129.00	Oct/04, p48	This portable wireless router will stream your iTunes music.
Canary Wireless HS10	$59.95	Apr/05, p44	This device finds hotspots and reports on network status.
AUDIO & VIDEO			
Canon Optura Xi	$999.00	Aug/04, p38	High-end features distinguish this mid-priced camcorder.
MCE Technologies QuickStream DV	$729.00	Aug/04, p57	This rugged DV-encoding drive includes a hot-shoe mount.
Native Instruments Guitar Rig	$499.00	Nov/04, p40	Killer software plus a sturdy stomp box will wow any guitarist.
Sony DCR-HC20	$499.99	Aug/04, p36	This compact, inexpensive camcorder has great image quality.
Tivoli Audio iPal	$129.99	Nov/04, p50	You won't believe the sound of this compact radio and speaker.
DIGITAL CAMERAS			
Canon PowerShot A85	$299.99	Mar/05, p40	This 4-megapixel point-and-shoot beauty takes great pictures.
Nikon D70 Digital SLR	$1,299.00	Jul/04, p50	It's as close to perfect as any digital SLR camera we've seen.
PRINTERS			
Canon i560	$89.99	Sep/04, p28	Ninety bucks can buy an exceptionally capable photo printer.
Canon i860	$119.99	Sep/04, p29	This printer's Photo Black cartridge makes color photos pop.
Canon i900D	$199.99	Sep/04, p31	Gorgeous prints, CD printing, color-LCD editing—all good stuff.
SCANNERS			
Epson Perfection 2580	$149.00	Oct/04, p37	This flatbed handles both reflective and film scans with ease.
Epson Perfection 4180	$199.00	Oct/04, p39	Superior image quality earns this scanner our recommendation.
Microtek ScanMaker i320	$119.00	Oct/04, p35	Killer photo-rescue software comes with this affordable unit.
STORAGE			
ILY SlimDVDup	$699.00	Apr/05, p45	Quickly duplicate CDs and DVDs without tying up your Mac.
LaCie Big Disk Extreme 500GB	$429.00	Aug/04, p55	Cutting-edge technology provides cutting-edge performance.
LaCie d2 DVD±RW Double Layer	$189.00	Feb/05, p48	Cram 8.5GB of data onto DVDs with this speedy burner.
OWC Mercury Pro DVD-/+RW	$129.99	Aug/04, p60	This speedy drive includes everything you need to start burning.
WiebeTech G5Jam 1TB	$1,299.95	Aug/04, p59	This internal 4-drive RAID makes a Power Mac G5 scream.

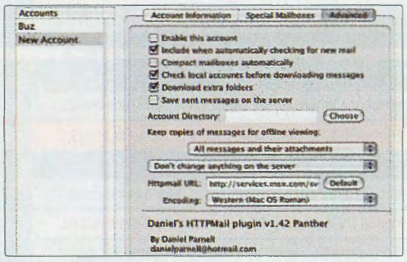
ask us

HOTMAIL

I was wondering how to use Hotmail, Yahoo, or both with Mail. Can you help?

ON THE DISC
HTTPMail Plugin 1.42, Mail Forward 2.4

You can use Apple's Mail application with these and other Web-based email services, but it requires installing a plug-in called HTTPMail Plugin (free, www.automagic-software.com). This plug-in lets you configure a new account in Mail with the HTTPMail protocol used by Hotmail and Yahoo. You can also try an application called Mail Forward ($15, www.sspi-software.com) that lets you forward your Hotmail or Yahoo mail to Apple's Mail.



Use Mail to access your Hotmail or Yahoo account.

CRAZY COLUMNS

Why, when I open a new Finder window in column view, do the columns insist on stretching out twice as long as the longest title in the list? Mac OS X should be smarter.

Column view is a great addition to the Mac OS, but those columns can be ornery. To reset the width to exactly the width of your longest item, Option-double-click on the little vertical double-line widget between columns at the bottom of the window.

A simple Option-double-click here can remedy column-view woes.

STITCH IN NINE

Can I digitize images for use on a commercial embroidery machine on my Mac?

Sad to say, the Mac has pretty much been squeezed out of this market. There's one viable option, but it's a little dated and a bit expensive: Textile Technologies' PowerStitch ($350, www.textiletech.com). This pricey

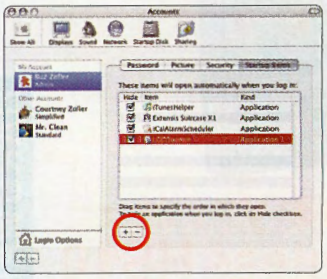
It's old and expensive, but PowerStitch is still pretty cool.

app doesn't work natively in OS X, but it does fine in OS 9 or the Classic environment. And yes, it generates industry-standard tajima files.

AMSCRAY!

I downloaded a software demo that has since expired—now my Mac keeps telling me it's expired and prompts me to click OK. I have gotten rid of everything I can find, but it won't go away. What gives?

To uninstall most software, simply trashing the app and its folder is enough. There are exceptions, however, including system-level utilities such as the items in System Preferences. To remove one of these, Control-click the item's icon in the System Preferences window and select Remove from the pop-up menu that appears. Some more heinous installations will set their applications or helper applications to launch automatically when you turn on your Mac or log in. To check for these weasels, go to System Preferences › Accounts and look in the Startup Items pane. Highlight any suspicious-looking items and click the minus icon at the bottom.



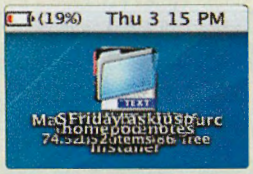
Have you checked your Startup Items lately?

quick answers

DISOBEDIENT DESKTOP

The icons on my desktop never stay organized correctly. How can I fix this?

Sounds like your .DS_Store file, which maintains locations of icons in the Finder, might be corrupt. An app called Cocktail ($14.95, www.macosxcocktail.com) can help. Or you may simply have



I need a cocktail!

too many icons on your desktop; you may need to move or delete some to make your desktop behave itself.

PDF SKELETON KEY

How can I print or edit password-protected PDFs?

That depends on what exactly the password is protecting. If the PDF is locked so tight that you need a password to even open it, then sorry, no dice. If it's simply locked against editing or printing, you can use PDFKey Pro (www.pdfkey.tk) to create an identical, unlocked copy of your PDF. This utility costs only €9.99 (about $12 at press time).

X-RATED APPS?

Can I limit what applications my kids use on my Mac OS X computer?

Yes, as long as each has his or her own individual login account. Then you just set privileges in the Limitations pane of System Preferences › Accounts.

BENCHMARKER

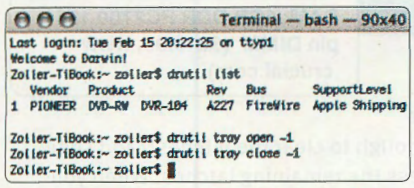
Is there any software for Mac OS X that I can use to benchmark the performance of my computers?

Are you some kind of geek who needs to find out exactly which computer is faster at every possible function? Well, join the club! Get your geek on with Xbench (http://xbench.com), a free Mac OS X benchmarking utility that has become a de facto standard for testing Macs. There is even a Web site (http://ladd.dyndns.org/xbench) where you can post your results so that you can compare your speed demon to other folks' speed demons. See if you can beat our three-year-old PowerBook's score—a whopping 42!

EJECT!

Is there a way to open an optical drive tray from the command line?

Sure is! The secret is the drutil command. First, get a list of possible drives, both internal and external, by typing `drutil list`. If you have only one drive, type `drutil tray open` to open its tray—oh, and `drutil tray close` to (you guessed it) close it again. If you have more than one drive, you'll need to add the ID number from the list (`drutil tray open -1` or `drutil tray open -2`, for example).



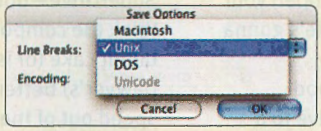
Open your CD tray from the command line.

UNIX UNIVERSITY

BE A BETTER BREAKER

What are Unix line breaks in a plain text file?

Plain text files are unformatted ASCII-character files. This means they are stripped of all font, weight, and other formatting. Unix uses plain text files to contain configuration info that makes lots of important things happen. The only formatting these files use or understand is a command to separate one line from another—think of it as a carriage return on a typewriter. Plain-text ASCII files use a base of 127 different characters to represent everything, including how lines should break.



Do your text files break correctly?

There are three different styles for representing line breaks: Unix, DOS, and Mac. Unix uses the LF (line-feed) character, DOS uses the CR (carriage-return) *and* LF characters, and the Mac just uses the CR character. Even the most straightforward text editors, such as Apple's TextEdit (/Applications/TextEdit) and Bare Bones Software's TextWrangler (free, www.barebones.com), can interpret any of these correctly, but it's important to use Unix line breaks in your Mac OS X and Unix configuration text files. To make sure your files use the Unix line breaks, use a smart text editor such as TextWrangler, which lets you specify which breaks to use in your file.

ON THE DISC
TextWrangler 2.0

DUPLEXING

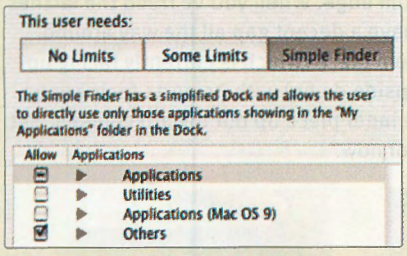
Is there a way to organize my documents so they can print on both sides of the page?

Your printer may not be able to physically print on both sides of the paper in one pass, but a simple technique can let you do double-sided printing with a little manual help. In the Print dialog, go to the Copies & Pages pop-up menu and select Paper Handling. Then check the box next to Reverse Page Order and choose Even Numbered Pages. Go ahead and press Print to print these pages. After they've printed, take the pages out of the printer and put them back in the paper-input tray, oriented so that the printer will print on the blank side—the correct orientation varies by printer. Bring up the Print dialog again, select Odd Numbered Pages (depending on how your printer spits out pages, you may have to uncheck Reverse Page Order), and print away.

SCROLL DIFFERENT

Can I use two-finger scrolling on my PowerBook or iBook?

The newest PowerBooks sport a scrolling trackpad, which allows you to use a two-finger drag for scrolling. Pretty slick, but what about those of us with older 'Books? Good news: Most aluminum PowerBooks and recent iBooks have similar abilities buried in their systems. Go to www-users.kawo2.rwth-aachen.de/~razzfazz to get the hack as well as a script you can run to determine if your 'Book is capable.



Set some limits for your users.

ICON DO IT!

I would love to customize all of my system icons; is there an easy way to do this?

Try The IconFactory's CandyBar ($12.95, www.iconfactory.com), which lets you change any icon on your system—even the wily Trash icon. Bonus: Iconfactory provides loads of free icons that you can download from its Web site.

ON THE DISC
CandyBar 2.0.1

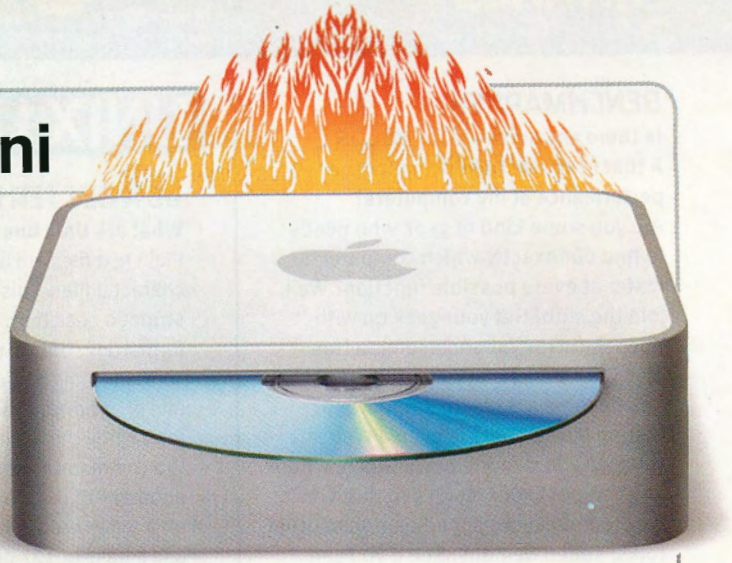
CandyBar makes it simple to replace any icon on your Mac.

Buz is a graphic designer living in Florida. He has been a devoted Mac user for over 10 years and has worked for both Apple and Power Computing.

Submit technical questions or helpful tips directly via email (askus@macaddict.com) or c/o *MacAddict*, 150 North Hill Dr., Ste. 40, Brisbane, CA 94005.

Max Out Your Mac mini

by Niko Coucouvanis



Free your Mac mini's inner monster.

WHAT YOU NEED

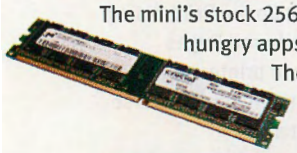
- Mac mini
- Nerves of steel

So you scraped up the couch coins and bought yourself a Mac mini. Then, wouldn't you know it, before you even outgrow the 40GB hard drive, dear old Auntie Em clocks out, leaving you a pile of cash—not enough for a new Power Mac G5, but enough to upgrade the bejeezus out of your Mac mini. You're reading the right magazine, friend—that is, if you're either brave or foolhardy enough to crack open your mini knowing full well that if you break anything, Apple's gonna charge you to fix it.

If that's OK with you, follow along as we pop the hood and max out a mini's RAM to 1GB, hop up the hard drive to a honkin' 100GB, and replace the combo drive with a full-on SuperDrive—doubling the mini's price in the bargain. If you think the component upgrades are ridiculous, the icing on this bundt cake (or is it a petit four?) is pure insanity: Against our (lawyer's) better judgment, we show you how to eek a bit more speed out of the thing by poking the motherboard's backside with a hot stick—overclocking it!

Stage 1: Just Add RAM

TRICKY



The mini's stock 256MB of RAM is barely enough to run Mac OS X, much less any memory-hungry apps. We can remedy that with a 1GB DIMM ($219.99, www.crucial.com). There's nothing to it—once we bust into the case. Don't forget to discharge any static first by unplugging all your peripherals from the mini; then, before you unplug the power supply, touch the mini's metal frame.

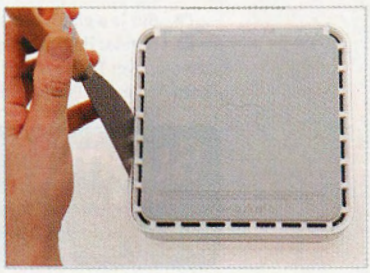
WHAT YOU NEED

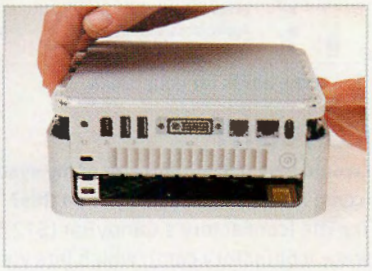
- Putty knife with 1.5-inch flexible blade ($1.98, Ace Hardware)
- Medium-grit sandpaper
- Plastic pry stick or picnic knife
- RAM: 1GB DDR PC2700 184-pin DIMM ($219.99, www.crucial.com)

1 Crack Open the Case

OK, hacker, time to put your putty knife where your mouth is. The target gap is extremely thin—if the blade isn't sharp, give it a little attitude adjustment with some sandpaper. Grind the blade at about a 15-degree angle to the flat sandpaper, but don't overdo it.

Lay the mini upside down and wedge the putty knife into the gap between the plastic bottom and the metal frame—go down about half an inch. You can't see them yet, but little plastic latches on the inner piece hook into a groove inside the sidewall of the outer piece. Push the blade straight in, and push out slightly on the putty knife's handle to pry up the inner piece. You should hear the latches pop as the pieces start to separate. If the gap doesn't stretch the length of the mini's side, hold the gap with your thumb while pulling the blade out slightly (just far enough to clear the latches), and slide the knife over to address the remaining latches. When you free all the latches on one side, keep the gap open with a finger or two while you give the same putty-knife treatment to the other (facing) bottom edge. When you've freed the latches along both sides and have a decent gap all the way around the mini, hold the bottom piece (which is currently facing up since the mini is still upside down) with its ports facing you, and carefully angle the inner piece up out toward yourself. Set the top section aside for now.

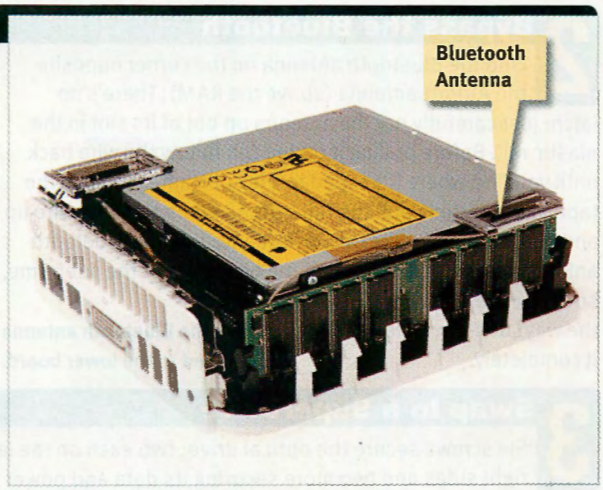




A good, slim putty knife slips right into the gap—if your blade is too fat, grind it down with some sandpaper.

2 Replace the RAM

If a RAM job is all the upgrading you can stomach, relax—you're almost there. If your mini has Bluetooth, you'll have to move the antenna; carefully pry it out of its slot, and rest it on top of the optical drive. Try to bend the connecting wire as little as possible. Now release the slot-locking tabs at each end of the RAM slot and remove the existing DIMM. When inserting the new DIMM, make sure it's PC2700 or greater (our mini came with a PC3200 DIMM) and try not to touch the metal connector pins on the business end, nor any of the metal bits on the module itself. Press the DIMM straight down into the slot until you feel it snap into place. Congratulations! You just performed the easiest, most effective upgrade ever. The only downside is that you now have a leftover DIMM that you just removed from the mini—we sold ours on eBay for beer money (a 256MB stick fetches about $20).



Bust that Bluetooth antenna out of the way, and your RAM is home free.

3 Close It Up—and Run Away Scared

No peer pressure here, but if you're thinking about calling it a day after upgrading your mini's RAM, you should probably know that swapping in a bigger or faster hard drive and more capable optical drive is child's play at this point. C'mon, chicken. No takers? Fine (bawk, bawk, bawk!). If you've got a Bluetooth antenna, snap it back into place, slap the cover back on your mini, and snap the cover shut; now plug everything back in, fire the mini up, and revel in the righteous speed boost you get from such a simple upgrade.

Like limbs on a school bus, keep your latches inside the case.

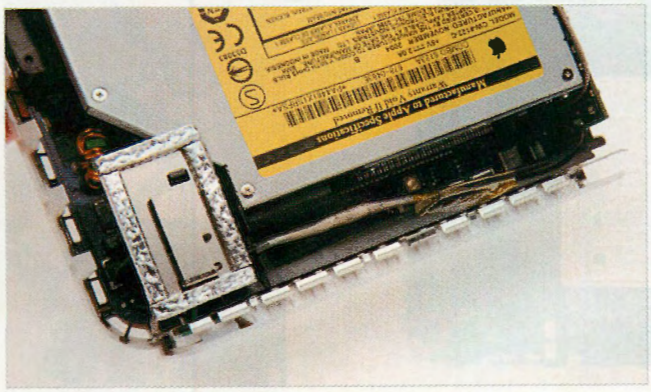
Stage 2: Upgrade Your Drives

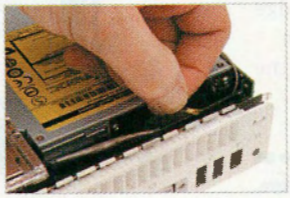
TRICKY

Want more storage capacity? How does 100GB sound? Need more speed? A 7,200-rpm drive will help. Want to burn DVDs? Add a SuperDrive. Before you dig in, though, know that the mini's hard disk and optical drive both ride along in a removable subframe that has a few little booby traps: The mini's power-button wires are inexplicably taped to the subframe, and if you have AirPort and Bluetooth preinstalled, you'll have two antennae to remove from the subframe. If you don't have preinstalled wireless, skip ahead to step 3.

1 Free the AirPort Antenna

The AirPort antenna wire runs the length of the mini's backside, right behind the optical drive. Use a fingernail or hard plastic stick (we used a plastic picnic knife) to push the release latch as shown in the photo below (top right). Before pulling the antenna up too far, follow the wire back until you find where it's taped to the frame. Carefully remove the tape and pull the antenna and its connecting wire up and out of the way. Note that it's still connected to the board beneath the frame, so handle with care.





Remove the AirPort antenna from the subframe, but leave it connected to the board underneath.

WHAT YOU NEED

Jewelers #0 Phillips and Jewelers #2 Phillips screwdrivers

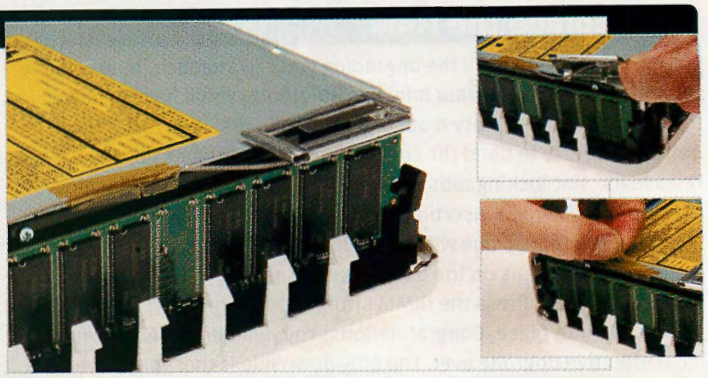
Plastic pry stick or picnic knife

SuperDrive: Pioneer DVR-K04 Dual-Layer Slot-Loading Drive ($159.99, www.macsales.com)

Hard Drive: 100GB Seagate Momentus 5,400-rpm Ultra ATA/100 ($239.99, www.macsales.com; $199, www.newegg.com) or 60GB Hitachi Travelstar 7,200-rpm Ultra ATA/100 ($175.97, www.macsales.com; $155, www.newegg.com)

2 Bypass the Bluetooth

Find the Bluetooth antenna on the corner opposite the AirPort antenna (above the RAM). There's no latch; just carefully pry the antenna up out of its slot in the plastic rail. Before pulling it up too far, follow the wire back until you find where it's taped to the subframe. Remove the tape, and carefully pull the Bluetooth antenna and its wire up and out of the way. Like the AirPort antenna, the Bluetooth antenna remains connected to the board under the subframe, so just move it out of the way; don't remove it completely.

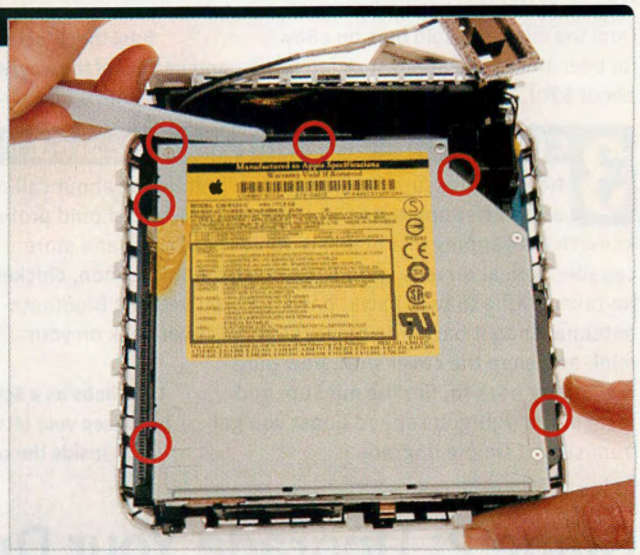


Leave the Bluetooth antenna connected to the lower board.

3 Swap In a SuperDrive

Six screws secure the optical drive; two each on the left and right sides and two more securing its data and power ports to the interconnect board. Remove all six screws as indicated in the photo and put them somewhere safe; don't be ashamed to label them. Using your plastic stick, carefully pry the drive away from the interconnect board; when you get them separated, slide the drive out the front of the frame, away from the interconnect board.

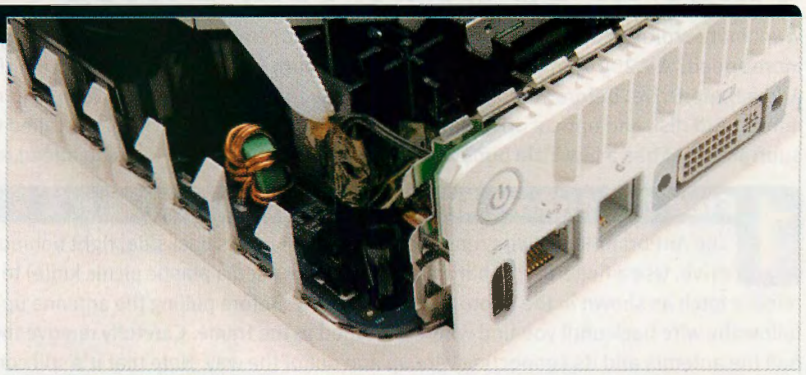
Now just slide in the replacement drive and carefully plug it into the connector on the interconnect board. Replace the screws. If you're into the idea of upgrading the hard drive and upping the clock speed, read on. Otherwise, reverse the prior directions to replace the frame, reattach the antennae (if you've got 'em), and slap the lid back on your mini. If you fire up your mini and it doesn't recognize the new SuperDrive, use PatchBurn (free, www.patchburn.de) to install the appropriate device drivers.



The six screws you need to remove are hiding on the sides of the drive where the circles indicate.

4 Protect the Power

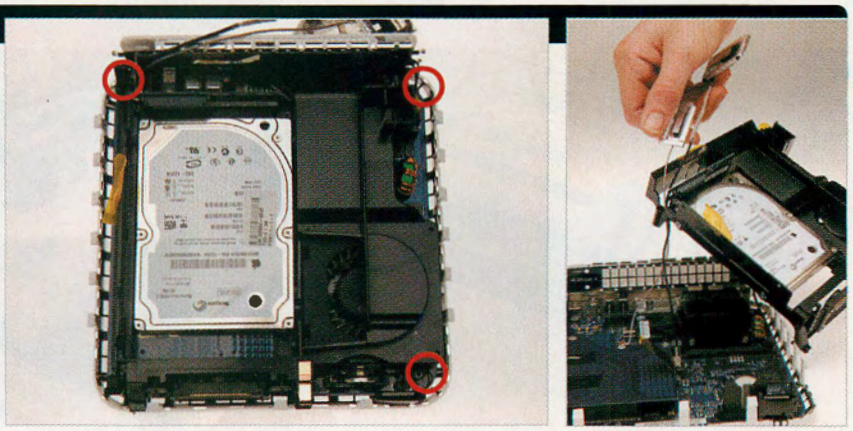
The mini's power button isn't connected to the subframe, but the wire connecting that all-important button to the motherboard is. If you pull out the frame without freeing that wire, you're likely to wreck the delicate motherboard connector and probably the power button as well—and you'd be rightly cheesed off at us. Carefully remove the tape that's securing the power-button wire to the frame.



Make sure to remove this tape, but leave the power plug in place—for now.

5 Free the Frame

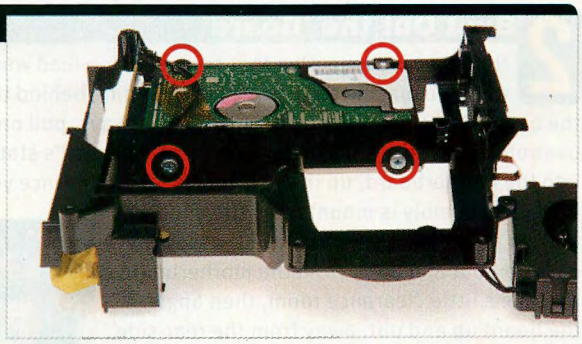
Find and remove the subframe's three securing screws (left) and set them somewhere safe. Label them if you're forgetful or paranoid. Before lifting out the subframe, gather the Bluetooth and AirPort antennae and notice how their connecting wires snake through the slot at the edge of the subframe. Carefully guide both antennae through the slot as you lift the subframe straight up and out.



Mind the antennae as you lift out the frame.

6 Hijack the Hard Drive

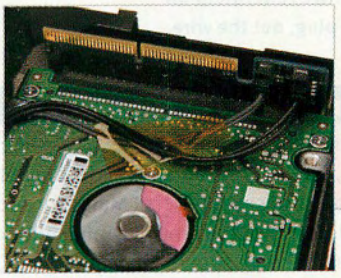
To get at the mini's hard drive, flip the subframe over and lay it optical-drive-side down. Four screws secure the hard drive—two each on the right and left sides—but first, you'll need to get that fan out of the way. Remove the fan's three screws and stash them, then flip the fan up out of the way and remove both drive-mounting screws on that side. Two things about the screws on this side: You may need an angled or very short screwdriver to get them; and whatever you do, don't remove the tape from the little hole in the frame—it's crucial to the mini's cooling.



Flip up the fan to reveal the hidden drive-mounting screw.

7 Watch Those Wires!

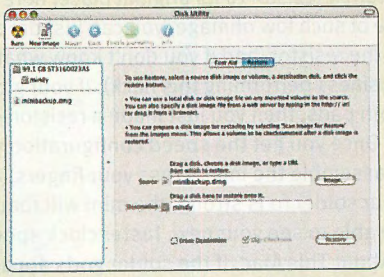
Before removing the other two screws, carefully untape the wires that are secured to the drive's circuit board—they feed the fan and speaker—and carefully unplug them from the interconnect board. Pull the plug, not the wires! Pry with the plastic stick if you need to. Now remove the hard drive's other two mounting screws. Take your trusty plastic stick and carefully pry the drive off the interconnect board. Note that the connector is part of the board, not part of the drive: Make sure to pry from the drive side. When you free the drive from the connector, slide the drive out away from the connector and slide in the new one. Be careful plugging the new drive in—the pins bend easily if misaligned. Return the screws, replace the fan and speaker wires (don't forget to plug them in), and you're done.



We know it's difficult, but pull the plug, not the wires.

D'oh! My Data!

If you don't want to start fresh with your mini's new hard drive, make sure to back up the contents of your original drive before removing it. Use Disk Utility (/Applications/Utilities) to create a disk image of the mini's drive and save the image to an external FireWire drive. When you get the mini's new drive installed, boot off the mini's software install CD, launch Disk Utility from the menu bar (Installer › Disk Utility), and use the Restore function to rebuild your old system on the new drive.



Back up and restore your old system if you don't want to start from scratch.

Stage 3: Overclock the Lil' Sucker

INSANE?

The final step of this mini-maxing is by far the skankiest. You haven't yet done anything explicitly warranty voiding—but that's about to change. Now it's time to send away the children and pacemaker-wearers; we're gonna rip out the mini's motherboard and perform microresistor surgery to push a 1.25GHz mini up to a no-nonsense 1.5GHz speed—a net gain of 250MHz. Or we'll just kill it. Grit your teeth now, this might sting a bit.

If you've never done any soldering, now's not the time to learn. If you slip up even the teeniest, tiniest amount when performing this stage, you run the very real risk of fatally frying your lovely new mini—and don't come crying to us if you do.

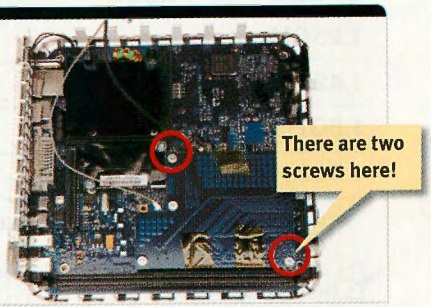
WHAT YOU NEED

- Jewelers #0 Phillips screwdriver
- Plastic pry stick or picnic knife
- Low-heat soldering iron
- Eagle eyes
- Your head examined

1 Move the Mezzanine

If your mini has preinstalled Bluetooth and AirPort, remove the two screws on the mezzanine board as indicated in the photo, and pull the board straight up to remove it. Make sure your Bluetooth and AirPort antennae remain attached.

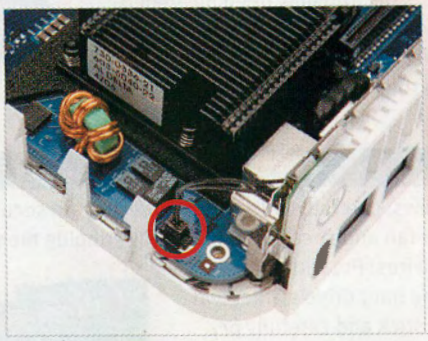
Now remove the lone screw holding down the motherboard. As you can see in the photo, it's near the RAM and mezzanine connectors. What you can't see in the photo is that this screw is nearly (but not quite) identical to the screws you took out of the subframe—keep an eye on this one after you remove it.

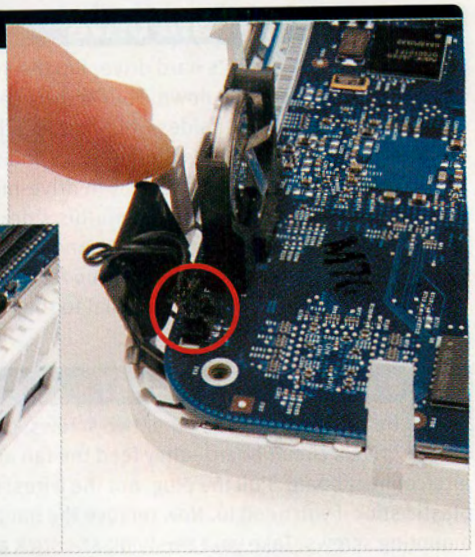


Remove three screws to free up the motherboard.

2 Bust Out the 'Board

Now it's time to unplug that power-button lead we untaped from the frame while displacing the drives. Find it hiding behind the processor heat sink in the back corner near the power button. As always, pull on the plug, not the wires; use your plastic pry stick if you need help. The mini's status LED is also plugged into the motherboard, up in the front-right corner. Once you unplug the LED, notice the LED assembly is mounted on the mini's bottom piece. Gently bend the LED assembly a wee bit out and away from the motherboard to make a little clearance room, then angle the board up and out, away from the rear-side ports. Lay the board on your anti-static operating table (no metal tables, please) and go scrub up for surgery.



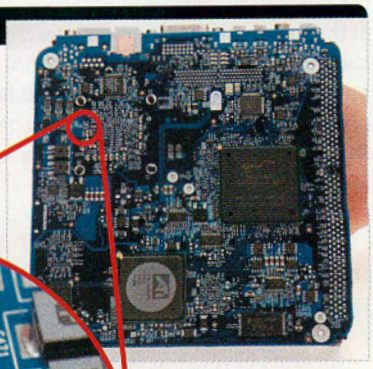


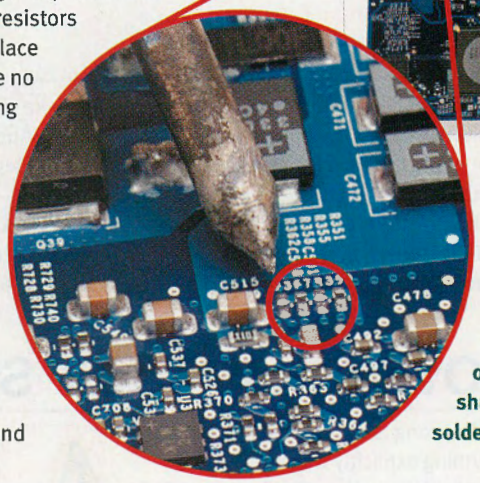
As tough as it is to avoid breaking these wee plugs, it's even tougher to fix them. We reiterate: Pull the plug, not the wire. Carefully!

3 You May Solder When Ready

OK, tough guy, time to show some mettle—actually lead, rosin-core solder. Locate the resistors labeled R362, R358, R355, and R351 (they're behind the processor, more or less); plug in your soldering iron; and say three Hail Marys for each MHz you're trying to gain. Look at the weensy little resistors; now study the PLL (phase-locked loop) multiplier chart below ("Chill PLL")—notice that for some speeds, namely 1.5GHz, you simply remove all of the resistors—relatively easy. And if things go horribly wrong and you have to return a resistor to its original place, here's a little secret: The resistors are of such low ohmage, you can just drop a solder booger in place of the resistor (and if you don't know what ohmage is, you have no business performing this hack). If your glob of solder is touching both pads, then you just made a resistor—if you're lucky.

Once you get the speed configuration you want, reassemble the mini, cross your fingers, and fire it up. If your solder fu is strong, the mini will roar to life, and you'll be able to see your new, faster clock speed in Apple Menu › About This Mac. If the solder gods are angry, your mini will just sit there like a recalcitrant lump-o-'lectronics. Before you begin weeping inconsolably, double-check your solder work—if it's dirty, clean it up to make sure you haven't inadvertently left part of the PLL circuit closed with solder; if it's clean, reconfigure your resistors for a lower clock speed and try one more time.





We're using this crapola soldering iron because our solder fu is strong. If yours isn't, turn back now, or get yourself a good, sharp-tipped, low-heat soldering iron.

Chill PLL

Use this handy table to configure your resistors. We chose the path of least resistance, removing all of the resistors for a speed of 1.5GHz.

SPEED	R362	R358	R355	R351
1.25GHz	●	●	●	x
1.42GHz	x	●	x	●
1.5GHz	x	x	x	x
1.58GHz	x	●	x	x

● = resistor in place x = no resistor

Niko "Hacksaw" Coucouvanis is pleased as pudding that this upgrade worked, but kinda peeved that he spent more on upgrade parts than on the mini itself.

Convert PC Video Files to QuickTime

EASY

by Johnathon Williams

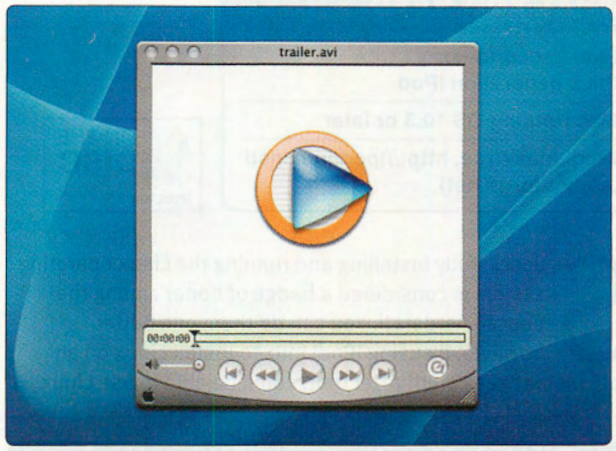
WHAT YOU NEED

- Mac OS 10.3 or later
- Forty-Two DVDVX Plus ($14.99, www.kaisakura.com)
- QuickTime Pro ($29.99, www.apple.com/quicktime)

WMV, AVI, ASF—the alphabet soup of Mac-incompatible video formats can be a vile stew. Doubly so when a video clip that you really, really want to see is only available in one of these foreign formats.

Here, we show you how to convert these file types to more QuickTime-friendly formats. This method isn't infallible—the output can be a bit unpredictable, and files in the latest Windows Media Player format can completely choke the process—but it's almost always worth a shot.

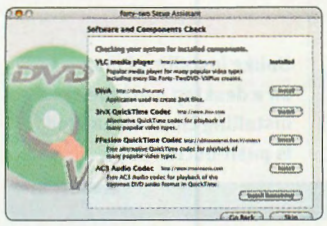
ON THE DISC
Forty-Two DVDVX Plus 2.4



If you can't beat 'em, convert 'em. Turn those PC video formats into files that play nice with QuickTime.

1 Install Converter and Support Files

Our workhorse for conversions is Forty-Two DVDVX Plus—grab it off the Disc or download it from www.kaisakura.com and drag it to your Applications folder. On first launch, Forty-Two DVDVX Plus presents its Setup Assistant. Click Continue until you get to the Software And Components Check window, which prompts you to install five additional packages. Four are *codecs* (software for *co*ding and *dec*oding different types of video), and one is a stand-alone movie player. You'll need them all.



Installing Forty-Two DVDVX Plus is only half the battle. For more converting power, install the helper packages, too.

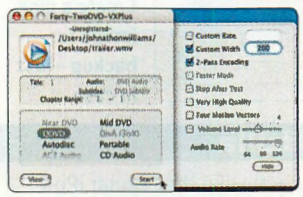
Now click the Install Remaining button. You'll be asked to approve some of the installations as they're downloaded. When you click the final Continue button in the Setup Assistant, yet another installer window will open. This one is for DivX, another popular codec—install it as well.

2 Choose an Encode Setting

Drag the icon of the file you want to convert from your desktop into the square pane at the top left of Forty-Two DVDVX Plus's main window. The bottom pane contains a list of video presets. The one that we're interested in is QDVD, which produces a QuickTime-compatible AVI file. Click it.

The QDVD preset works best on files with large video resolutions (400 pixels wide or more); conversely, it tends to resample small-size movies to the preset's default width of 640 pixels, which can leave them pixelated and quite ugly.

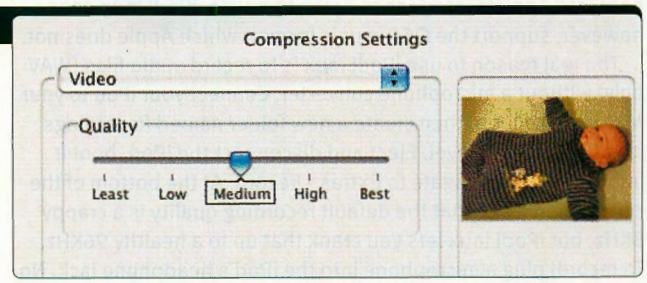
To preserve your original resolution, click File › Advanced Options. In the drawer that appears, click the Custom Width check box and enter your video's width. Then, click the check box next to 2-Pass Encoding. Finally, click Start to begin the conversion. Even with these precautions, the resolution may still change. If that happens, see step 3 to restore it.



It's a good idea to specify a custom width for movies less than 400 pixels wide.

3 Clean Up with QuickTime Pro

Our converted file is now a QuickTime-compatible AVI encoded with DivX. Purists, however, won't rest until they've got a native QuickTime movie with a matching .mov extension. To make it so, open the converted file in QuickTime Pro and select File › Export. From the Export drop-down menu, select Movie To QuickTime Movie. Click Options to select codecs for video and audio. MPEG-4 offers terrific quality and good compression, but you may choose whatever codec you like. You'll probably need to experiment with these settings to find the best balance between quality and file size.



Converting, like translating, is an art, not a science. If your video comes out grainy, adjust your encoder settings in QuickTime.

Johnathon Williams is composing a set of lyrical ballads about the transcendental beauty of QuickTime. Really.

Put Linux on Your iPod

EASY

by Alex Handy

Despite what nature shows say, penguins love Apples—especially in confined spaces.

WHAT YOU NEED

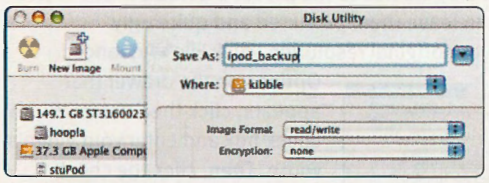
- First-, second-, or third-generation iPod
- Mac running OS 10.3 or later
- iPodLinux (free, http://ipodlinuxinstl.sourceforge.net)

ON THE DISC
IPodLinux 0.3

Successfully installing and running the Linux operating system is considered a badge of honor among the peecee nerderati. You can do them one better, however, by using iPodLinux to install Linux on an iPod. Instant geek cred! After that, you'll be able to use Linux to turn your 'Pod into an ad-hoc voice recorder. Download the iPodLinux installer from http://ipodlinuxinstl.sourceforge.net or grab it off this month's Disc—but note that iPodLinux doesn't currently work on the latest iPods (shuffle, mini, photo, and clickwheel models). Now let's geek out!

1 Back It Up, Jack

Installing Linux on your iPod is easy-cheesy, but you'd be wise to back everything up—just in case. First, plug in your iPod; if it doesn't automatically mount on the desktop, launch iTunes and open iTunes › Preferences. In the iPod section, click the box labeled Enable Disk Use. Now launch Disk Utility (/Applications/Disk Utility), select your iPod, and click the New Image icon or select Images › New › Image From Disk. Save the disk image file somewhere safe on your Mac. You *could* skip this step—but if things go downhill in the next two steps, you'll probably regret it after your iPod eats all of your music and won't do anything other than flash the question-mark folder at you.

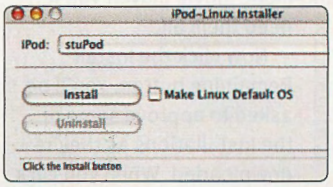


Create a disk image for backup—just in case.

2 Gentlemen, Start Your Linux

With your iPod plugged into your Mac, double-click the iPodLinux installer. Agree to the terms of use and click the Install button. When the installation finishes, drag the iPod icon from your desktop to the Trash to eject the iPod. Unplug the data cable, and hold down both the select and menu buttons for five seconds to restart your iPod.

On reboot, your iPod will display the usual Apple logo and then briefly show Tux, Linux's penguin mascot, before settling into the regular old Apple iPod interface. To boot into Linux, restart the iPod, but hold the back-arrow button as the iPod boots. This drops you into Podzilla, the iPodLinux interface.



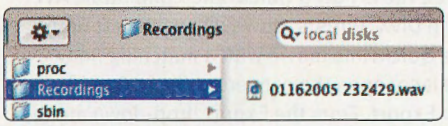
Unlike installing Linux on a desktop machine, installing Linux on an iPod is push-button easy.

3 Tool Around in Podzilla

Podzilla functions almost exactly like the regular iPod menu system, more or less. Under Music, you can browse tunes by album, artist, or song, but not by playlist—iPodLinux doesn't yet support iTunes playlists. No biggie—just boot into Apple's interface to listen to music. iPodLinux does, however, support the OGG music format, which Apple does not.

The real reason to use iPodLinux is to record audio files (WAV only) without a microphone converter. Connect your iPod to your Mac in disk mode, then create a new folder named Recordings at the iPod's root level. Eject and disconnect the iPod, boot it into Linux, and navigate to Extras › Record. At the bottom of the screen, you'll see that the default recording quality is a crappy 8KHz, but iPodLinux lets you crank that up to a healthy 96KHz. To record, plug a microphone into the iPod's headphone jack. No mic? Your left iPod earbud doubles as a mic in a pinch.

Unfortunately, iPodLinux's WAV playback is extremely crash prone, so you should download recordings from the iPod (/Recordings) to your Mac and listen via iTunes or QuickTime Player. There's a lot more you can do with iPodLinux, such as play FLAC sound files and connect to the iPod via telnet for command-line fun. Check out www.ipodlinux.org for all the details on this evolving operating system.



Like any Linux first-timer, you're now wondering, "What was the point of this exercise?"

Alex Handy is a crusty old Mac geek who is now made entirely of tin. He blogs at www.gism.net/blog.

Use Skype to Chat While Gaming

EASY

by Chris Barylick

WHAT YOU NEED

- Mac OS 10.3 or later
- Broadband Internet connection
- Built-in or external microphone (headset recommended)
- Skype 1.0 (free, www.skype.com)

In-game chat is great for coordinating team strategy and taunting opponents. The problem is that it's generally more trouble than it's worth—fraught with connection problems and a general tendency to slow down gameplay for one reason or another. What you need is a stand-alone voice-chat application to run innocuously in the background while you get your game on. Skype is that application—and here's how to set it up to add a little human interaction to your online gaming.

ON THE DISC
Skype 1.0

Adding voice chat to games brings intrateam communication—and interteam trash talking—to fun new levels.

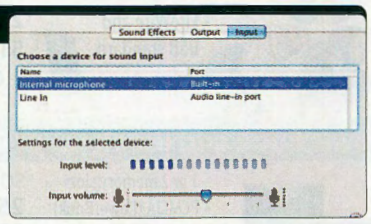
ILLUSTRATION BY CHRISTINA EMPEDOCLES

1 Level Out Your Sound

Skype is a free VoIP (Voice over IP) app that allows users to converse in real time over the Internet—Mac, PC, whatever, as long as the computer is running Skype. Beyond that, you just need your Mac's built-in mic and speakers, although a headset helps keep things to yourself.

Since Skype runs alone as a background app, you can use it to chat in any multiplayer game. Grab Skype off this month's Disc (or download it from www.skype.com), double-click the Skype_1.0.0.0.dmg file to mount the image, and then drag Skype to your Applications folder.

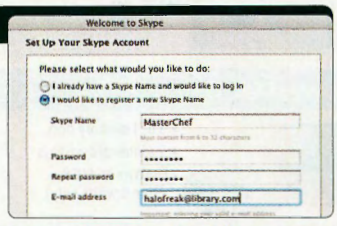
Before you start your chat-a-thon, plug in your mic (or headset), open System Preferences, and go to the Sound pane. Click the Input tab and click on the audio source you're using. Test your mic level by speaking into the mic while watching the onscreen Input Level indicator. Adjust the Input Volume slider (if necessary) until the peak level is around the middle of the scale. If your gaming setup includes big speakers, you may need to spend time tweaking your input level to find the sweet spot between inaudibly low and blowout high.



Tweak your input level to squelch squeal or gain some gain.

2 Set Up Your Skype and Chat

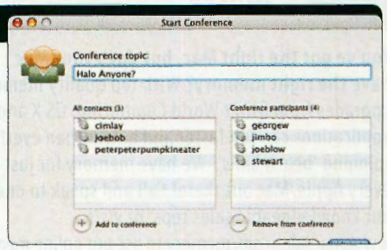
Before chatting, you'll need to create a Skype account in order to contact other Skype users. Launch Skype and follow the prompts to set up a new account; enter a user name, password, and email address. Once you're done, click the Add button to start adding your pals' Skype user names to your Contacts list—obviously, this step only works if your pals have already installed Skype and told you their user names. This would be a good time to make a test call to one of your friends to make sure everything's kosher with the connection; plus, it's easier to fine-tune your input level if you've got a helpful ear on the other end. To initiate a call, just double-click a name in your Contacts list.



Sorry, chief—the best Skype user names are already taken.

3 Get Your Game On

When you're done with the test call, click Hang Up. To initiate a conference call for up to five simultaneous users, click Conference or select Call › Start Conference Call from the menu bar to summon the Start Conference window. Select a contact you want to invite to the session, click Add To Conference, and then do the same for three more contacts. When your Conference Participants list is full (you plus four others for a total of five), click the Start Conference button; your Mac will make a ringing noise as the recipients accept the calls. Go ahead and start yakking to make sure the connection is good. Once the conversation is in full swing, leave Skype running and open your multiplayer game of choice, log into a game server, and marvel as the conversation continues unabated.



See, conference calls don't have to be boring and stupid.

Chris Barylick's Chicken Dance of Victory is widely known and feared, especially in bastions of good taste.

Other World Computing

Serving the Mac Universe since 1988

800.275.4576 visit macsales.com

Excellent service | Competitive prices | Quality products | Expert tech staff

Your Online Internal Parts To Make

More Memory = Faster Mac

Get more memory to run more of your applications faster!
Top quality memory from OWC makes the difference!

PowerMac G5

All Models
- 4 or 8 memory slots
- 4 internal drive bays
- AGP 8X video slot
- 3 PCX or PCI slots
- FireWire 400/800, USB, Bluetooth & AirPort

3200 DDR C.A.S. 3.0
Maximum up to 8 GBs!
1 GB kits (2) 512 MB DIMMs **$139.99**
2 GB kits (2) 1 GB DIMMs **$359.99**

PowerMac G4 w/AGP Slot

- 3 or 4 memory slots
- 3 or 4 internal drive bays
- AGP video slot
- FireWire and USB built-in

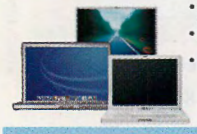
Maximum up to 2 GBs
256 MB from $31.99
512 MB from $79.99

iMac G3, G4, and G5; eMac G4

- 2 memory slots
- FireWire and USB standard

Maximum up to 2 GBs
256 MB from $32
512 MB from $79
1 GB from $169

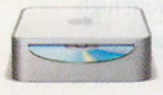
PowerBook and iBook G3 or G4



- 1 or 2 memory slots
- PCMCIA (PowerBook)
- FireWire and/or USB

SODIMMs Max. up to 2 GBs
256 MB from $29
512 MB from $75
1 GB from $199

Mac mini Memory



- 1 Slot
- 1 GB Max
- DVD & HD

1 GB PC2700 DDR DIMM
Only $169.99!

PowerMac G3

- 3 or 4 memory slots
- 2+ internal drive bays
- FireWire and USB (Blue & white only)

PC66/100 CL2 SDRAM
Maximum up to 1 GB
256 MB SPECIAL $25.99!
256MB x 3 = 768MB, x 4=1GB!

Faster = Mac

OWC takes the guesswork out of upgrading
- Lifetime Advance Replacement Warranty
- Fully meets or exceeds Apple specs
- UPS/FedEx Air delivery from $4

You've got the right Mac, but does your Mac have the right memory? With top quality memory upgrades from Other World Computing, OS X and applications can run faster and better than ever! Less spinning 'beach balls'! We have memory for just about every Apple/Mac out there! Call and speak to one of our knowledgeable sales reps, or visit www.macsales.com/memory to use our online memory guide.

SUPERDRIVE YOUR COMPUTER FROM ONLY $75.00

WWW.MACSALES.COM/SUPERDRIVE

Make music, movies, data backups and more!

You can use Apple iTunes/Discburner, Toast, or just about any CD/DVD authoring software available!

Up to 16X DVD Burn Speeds
Up to 40X CD Burn Speeds
Up to 6X Dual Layer Burn!

Internal options for iMacs & PowerBooks

Internal options for desktop Macs

Media, Cases, Label Kits in stock too!

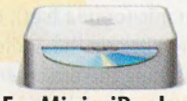
Bigger, better, faster, and quieter!

Upgrade your hard drive today!

Seagate. | Western Digital | TOSHIBA | Maxtor | HITACHI

SERIAL ATA ATA/IDE SCSI

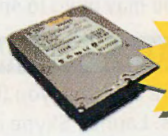
Available for the Mac model you have!



For Minis, iBooks & PowerBooks

2.5" Up to 120GB from $69!

For iMacs, eMacs & PowerMacs



3.5" Up to 500GB from $49!

Hard Drive Controllers

Use Serial ATA hard drives or bigger, faster ATA drives with a new PCI hard drive controller

SIIG Serial ATA/150 Mac PCI Controller $59.99
- Supports up to 2 drives
- Plug and Play

SIIG, Inc.

Sonnet Tempo ATA/133 Controller $79.99
- Supports up to 4 ATA drives
- For OS 8.6-9.2.x & OS X.
- 3yr Warranty

SONNET SIMPLY FAST

Network Adapters

D-Link Building Networks For People

D-Link 10/100 Ethernet PCI Card $9.99

USB Keyboard

Logitech Freedom USB Wireless Keyboard & Mouse Set Just $27.95 for any Mac with USB

Logitech

PRAM Batteries

Is your Mac forgetting what time it is? OWC PRAM batteries starting at **$5.75**

Mac Upgrade Center

Your Old Mac Like New

visit macsales.com
800.275.4576

External for any Mac (or PC) with an available FireWire/USB 2.0 port:

OWC FireWire/USB2 External DVR-109 SuperDrives

DVD-+R/RW, +R DL up to 16X, CD-R/RW up to 40X Burn

OWC Mercury Pro FireWire/USB 2.0 Combo $159.99

OWC Neptune FireWire only Solution $149.99

Above include: All Cables, Dantz Retrospect Backup, NTI Dragonburn, 25 pieces 52X CD-R Media, 5 pieces 8X DVD-R media, 1 year OWC Warranty

OWC FireWire/USB 52x32x52x CD-R/RW Solutions

OWC Mercury Pro FireWire+USB 2.0/1.1 $97.99

OWC Neptune FireWire only Solution $89.95

Above include: All Cables, Dantz Retrospect Backup, NTI Dragonburn, 25 pieces 52X CD-R Media, 1 year OWC Warranty

FireWire/USB Adapters

Connect to thousands of new USB and FireWire Products!

Add FireWire and/or USB from $9.99

ADD FIREWIRE 400/800* OR USB 1.1/2.0* TO YOUR POWERMAC!

OWC 2-port FW 400 PCI Card for PowerMacs $9.95

OWC 3-port FW 800+2 Port FireWire 400 PCI for PowerMacs $49.99

OWC 3-port FW 400/5 Port USB 1.1/2.0 PCI for PowerMacs $29.95

* FireWire 800 and USB 2.0 operation require Apple OS X 10.2.x or later.

ADD FIREWIRE 400/800 TO ANY POWERBOOK!

OWC 2-port FW 400 PCMCIA for PowerBooks $24.99

LACIE 2-port FW 800 PCMCIA for PowerBooks $78.95

Multimedia

M-AUDIO

M-Audio StudioPro 4 Desktop Audio Monitors $149.00

M-Audio Keystation 49e 49-Key USB Midi Controller $99.00

Nova Large Capsule Cardioid Microphone $99.00

ShuttlePRO Multimedia Controller

Contour Shuttle A/V Controllers

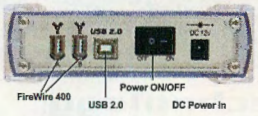
Shuttle Pro v2 Jog/Shuttle (15 programmable buttons) $84.99

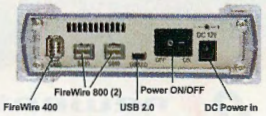
Shuttle Express Jog/Shuttle (5 programmable buttons) $39.95

Macworld Editor's Choice April/2005

OWC FireWire & USB

High performance plug & play





OWC Mercury Elite Pro

The sleek, compact solution that stands or stacks.

Your Drive + Mercury = Plug 'n/Play External!

Size	Speed	Data Buffer	FireWire 400/USB	FW800/ 400*	FW800/ 400/USB
80GB	7200RPM	2MB	$129.99	$159.99	$169.99
120GB	7200RPM	8MB	$159.99	$179.99	$199.99
160GB	7200RPM	8MB	$179.99	$199.99	$219.99
200GB	7200RPM	8MB	$209.99	$229.99	$249.99
250GB	7200RPM	8MB	$229.99	$249.99	$269.99
300GB	7200RPM	8MB	$299.99	$319.99	$329.99
400GB	7200RPM	8MB	$419.99	$449.99	$459.99

Call for other Available Models and Options!

* Elite 800 Pro FW800/400 solution has same ports as pictured FW800/400 + USB model, without the USB 2.0 port.

All Mercury Elite Solutions are Apple HFS+ Preformatted Ready to go and include: Dantz Retrospect, Express Backup Utility(Mac/PC), Intech HD Speedtools (Mac), all cables, and a 2 Year OWC Warranty.

Build your own Mercury Elite FW/USB drive

Case kits include all connecting cables and driving mounting screws. Use any 3.5" IDE/ATA hard drive up to 500GB!

Oxford911+ FireWire 400 Kit $65.99

Oxford911 Combo FireWire 400/USB2 Kit $79.95

Oxford912 FireWire 800/400 Kit $99.95

Oxford922 FireWire Combo 800/400/USB2 $119.95

OWC Mercury On-the-Go

High-speed drives that are "fits in a pocket" size

Your Drive + OTG = Plug 'n/Play External!

Mercury On-The-Go	FireWire 400	FW400 + USB 2.0/1.1
40GB 5400RPM 8MB Data Buffer	$139.97	$149.99
40GB 5400RPM 16MB Data Buffer	$149.97	$159.99
60GB 4200RPM 8MB Data Buffer	$159.97	$169.99
60GB 5400RPM 16MB Data Buffer	$179.97	$189.99
60GB 7200RPM 'Fastest Ever!'	$235.97	$239.99
80GB 5400RPM 8MB 'Fast-High Cap.!'	$219.97	$229.99
100GB 5400RPM 8MB 'Fastest 5400RPM'	$299.97	$309.99

Call/Visit www.macsales.com for other 20-100GB models.

All Mercury On-The-Gos are Apple HFS+ Preformatted and include Dantz Retrospect Express Backup Utility (Mac/PC), Intech HD Speedtools(Mac), all cables, AC Power Supply, and a 1 Year OWC Warranty.

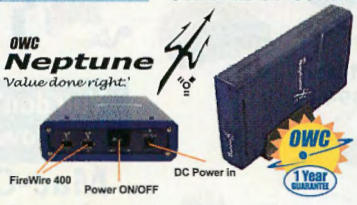
Build your own Mercury On-the-Go FW/USB drive

Case kits include all connecting cables and driving mounting screws. Use any capacity 2.5" IDE/ATA drive

Oxford911 FireWire 400 Kit $67.99

Oxford911 Combo FireWire 400/USB2 Kit $79.95

OWC Neptune "Value done right."



Features the same Oxford911 bridge as our highly acclaimed Elite Pro for all the performance and a value that can't be beat!

Neptune *"Value Done Right"*

Size	Speed	Data Buffer	
40GB	7200RPM	2MB	$99.99
80GB	7200RPM	2MB	$109.99
120GB	7200RPM	8MB	$139.99
160GB	7200RPM	2MB	$139.99
200GB	7200RPM	8MB	$179.99
250GB	7200RPM	16MB	$199.99

Call for other Available Models and Options!

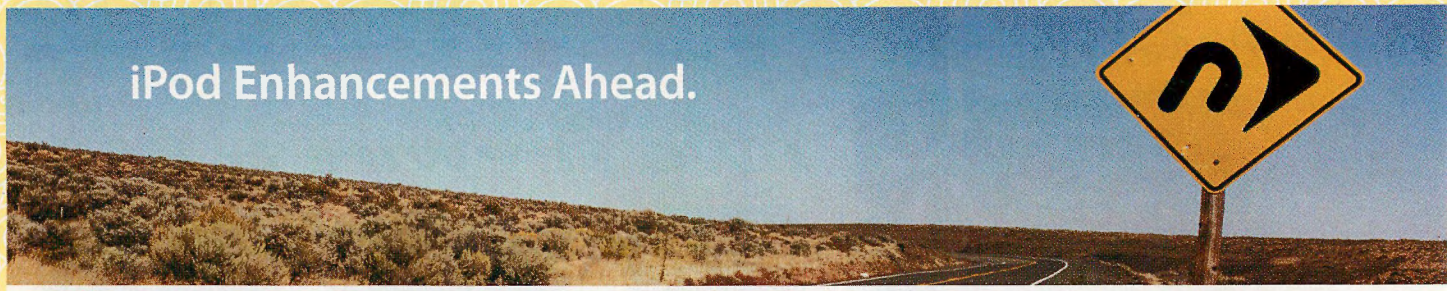
Neptune FW Solutions include Dantz RetroSpect Express backup software (Mac & PC), Intech Speedtools (Mac), all cables, 1 yr. OWC Warranty

For all of your high-speed storage needs! Visit http://www.macsales.com/firewire

Prices, specifications, and availability are subject to change without notice. Items returned within 30 days may be subject to a restocking fee. No return will be accepted without Return Merchandise Authorization number.

Other World Computing
1004 Courtaulds Dr., Woodstock, IL 60098

Need to *Spring Clean* your Computer?

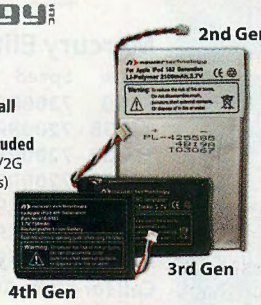


newertechnology

iPod Replacement Batteries

Get up to Over 20 Hours of Playing time for iPod with 1st, 2nd, 3rd and now 4th Generation High Capacity Batteries!

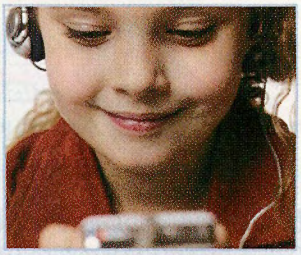
Easy Install Opening tools included (Only 1G/2G /3G iPods)



1st/2nd Gen 1800mAh $29.99
1st/2nd Gen 2100mAh $39.99
3rd Gen "Dock Connector" 850mAh $25.99
4th Gen 'Click Wheel' 750mAh $25.99

Replace your short running iPod Battery with one that's far better, the longest running internal iPod batteries available! Visit www.macsales.com/ipod for all of our great Apple iPod products!

Contour Design iSee



RoadTrip!

FM Transmitter $14.99

for any iPod or music player - Listen to your music through your car's FM radio. Now available in 87.9 MHz and 107.7 MHz version (not a power adapter or iPod charger)

Powerbook & iBook Accessories

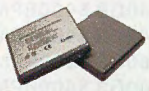
High-Capacity PowerBook Batteries

Up to 50% more Capacity than Original!

***NEW!* PowerBook 12" & 17" Batteries now available!**

G4 15" 'Aluminum'
53.3 watt hour **$129.99**

G4 15" 'Titanium'
65 watt hour **$139.99**
71 watt hour **$149.99**



Lombard/Pismo G3
7200mAh **$159.99**
5400mAh **$139.99**

iBook Batteries from $99

The longest-running laptop internal batteries available
Call or visit www.macsales.com/batteries for all your PowerBook battery needs.

Protect your screen!

Stops marks!

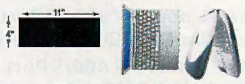
There's an OWC Laptop Screen Protector (LSP) product for your Mac

The OWC LSPs are precision cut, glove soft leather protectors that prevent potentially permanent marks which can occur from the trackpad and keyboard while your laptop is closed.

PowerBook G3s $14.99

PowerBook G4 17" $17.99

PowerBook G4 15" $15.99



15" PowerBook G4 12" / iBooks $12.99

Protect your computer with these great products!

Rain Design iLap
for iBook and PowerBook sizes 12"-17"
from $49.90

Village Tronic VTBook
Add another CRT or Flat Panel Display to your Powerbook **$246.99**

matias products

Matias Laptop Armor
Carrying Cases
from $78.99

Hoodman Laptop Hoods
for Powerbook and iBook
12" Models $27.95
15" Models $28.95
17" Models $29.95

Connectivity

Upgrades and add-ons for home and the road!

D-Link
Building Networks For People

PCMCIA Ethernet Card $19.99

IOGEAR

Iogear 2 Port USB 2.0 PCMCIA Card $38.95
Iogear Bluetooth to USB Adapter, 30 Meter $29.99
Iogear Compact Firewire 6 Port Hub 1394A $59.99

macally

MacAlly BT-Mini Programmable Bluetooth Mouse $46.99
MacAlly iVoice USB Microphone Adapter $14.99
MacAlly IceCam USB Video Web Camera $29.99
MacAlly IceCad USB Mini Writing Tablet $39.99

You don't do Windows?

FasterMac.net
Pay less. Get more. Surf faster!

Mac-Only Internet from just **$8 per month!**

High-Speed Nationwide High-Speed Nationwide Dial-up and DSL Services
24/7 Toll Free Tech Support & More!
Visit **www.FasterMac.net** or call toll free **800-869-9152** to learn more or to sign up today!

Check out our fresh prices!

visit macsales.com
800.275.4576

Satisfy that Need For Speed -
OWC Has a Processor Upgrade to make your Mac like New!

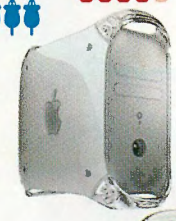
$ OWC gives cash back for your old processor $

OWC Mercury G4 Extreme

MacAddict RATED GREAT — Macwell — my mac 5 out of 5 — Macworld — macHOME

G4/7455 1.0GHz	$229.99
G4/7455 1.2GHz	$289.99
G4/7455 1.4GHz	$389.99
G4/7447 1.467-1.5GHz	$459.99

Call for BREAKTHROUGH

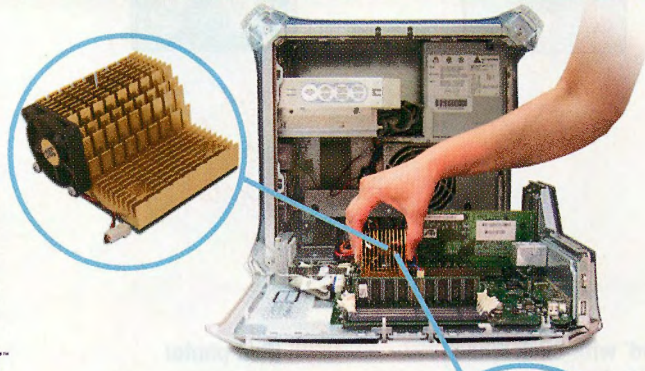


G4 DUAL Upgrades 1.0 to 1.8GHz from $399.95!

- 100% Compatible w/ all Apple Software and Operating Systems
- 30 day 100% money back guarantee
- 3 year warranty lets you buy with confidence!

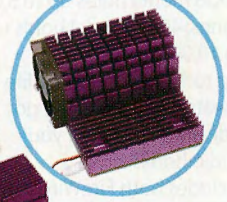
Call 800-275-4576 or visit www.macsales.com/FASTER for New PowerMac G4 'MDD' DUAL Processor Upgrades from $599.95!

Get in the Game!
Even starting from a G4/350MHz you can upgrade to 1.7GHz+ speed! Upgrades for PowerMac G4 AGP Graphics/Sawtooth, Cube, Gigabit Ethernet, Digital Audio, and Quicksilver G4 Models.



SONNET SIMPLY FAST

- 100% Compatible w/ all Apple Software and Operating Systems
- 30 day 100% money back guarantee



Sonnet Encore/ST

G4/7455 @ 1.0GHz	$229.95
G4/7455 @ 1.2GHz	$299.95
G4/7455 @ 1.4GHz	$399.95
G4/7447 @ 1.7GHz	$499.95

Sonnet Encore/ST Duet DUAL G4/1.3GHz $695.99

Visit www.macsales.com/FASTER to see all the upgrades we offer for Powerbooks, PCI Macs, Clones, Etc! Our Upgrade Finder shows you just what makes your Mac a FASTER Mac!

Power Up that PowerMac!

Power up your G3 Beige, G3 Blue & White, & G4 'Yikes' with Wicked Fast ZIF Upgrades by PowerLogix and Sonnet!

PowerLogix

G3/1.0GHz w/1MB L2 1:1 Cache $259.00
G3/1.1GHz w/1MB L2 1:1 Cache $349.00
High Performance Value!

SONNET SIMPLY FAST

G4/500MHz w/1MB L2 2:1 Cache $159.00
G4/800MHz w/1MB L3 4:1 Cache $299.00
G4/1.0GHz w/1MB L3 4:1 Cache $395.00

ATI MacEdition Video Cards

For Power Mac G5 models:
x800 G5 Dual DVI with 256MB **$495.99**

x800 G5 Dual

9800 ProSpecial Edition 256MB **$297.99**

ATI 9800 w/256MB

For AGP Equipped PowerMac G4s:
9800 Pro 128MB **$249.99**

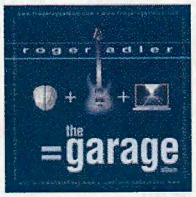
ATI 9800 Pro

9000 Pro 128MB **$127.99**

ATI 9000 Pro

G3, G4, G5 PowerMacs with open PCI Slot:
9200 Pro 128MB **$124.99**

ATI 9200 Pro



the garagealbum by Roger Adler

Rock out to this CD created entirely with Apple's Garage Band Software and OWC Products including the Brian Moore iGuitar!
www.thegaragealbum.com

Software

Upgrade Your System!

Apple OS X
Apple OS X 10.2.x 'Jaguar' from $17.99
Apple OS X 10.3x 'Panther' from $49.00

Utilities
TechTool Pro 4 - The ultimate Mac utility $67.99

Special!

finalist macworld eddys

XpostFacto
The Power of OS X on Macs not supported by Apple!
www.eshop/macsales/shop/osx-center

Other World Computing
Serving the Mac Universe since 1988
800.275.4576 visit macsales.com
Excellent service | Competitive prices | Quality products | Expert tech staff

Prices, specifications, and availability are subject to change without notice. Items returned within 30 days may be subject to a restocking fee.
No return will be accepted without Return Merchandise Authorization number.

Other World Computing
1004 Courtaulds Dr., Woodstock, IL 60098

Free shipping on all orders ove

NEW iPod mini...in four new colors. Call MacMall for the comp

iPod® with Click Wheel!
- 20GB model holds up to 5,000 songs; 40GB model holds up to 10,000 songs
- Up to 12 hrs. of battery life
- Create playlists on the go
- Adjust the speed of your audio books
- Includes both FireWire® and USB 2.0 cables

starting at $294!

NEW! iPod photo!
- 30GB and 60GB models
- Holds up to 5,000 songs or up to 25,000 color photos
- 2" backlit color LCD
- Enjoy slide shows with your own music soundtrack
- Scroll through color thumbnails of your photos

starting at $344!

NEW! iPod shuffle!
- 1GB model holds up to 240 songs; 512MB model holds up to 120 songs
- Skip-free playback
- Provides up to 12 hours of playback per charge
- Weighs less than 1oz.!
- High-speed USB 2.0 transfers
- iTunes® for Mac® & Windows

starting at $94!

NEW! iPod mini!

The new iPod mini offers an extended battery life that lasts up to 18 hours!
- 4GB or 6GB models
- Holds up to 1,500 songs
- Only 3.6" tall, 0.5" thick and 3.6 ounces!
- Includes iTunes® for Mac® and Windows

FREE!*

With purchase of any iPo
Shipping! (all orders over $99!
PodSuit Case!** ($13.99 valu
FM Transmitter! ($29.99 valu
Engraving!** ($39.99 value!)
Speakers! ($9.99 value!)

*After mail-in rebates. See below for details.
**Not available on iPod shuffle.

Call now or visit macmall.com for more iPod accessories!

inMotion iM3
Portable audio system. #190268

only $159.99!

inMotion
Portable iPod Speakers. #388694

only $103!

iPod Armor
For the iPod Photo 4G iPod. #177814

only $49.99!

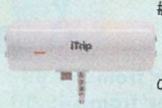
Now available!
iTunes Music Store Card

starting at $15!

On Stage iPod Speakers
#653811

only $105.93!

iTrip FM Transmitter
#241722



only $29.95!

iTalk Voice Recorder
#404836

only $29.99!

naviPro eX
For 4G iPod and iPod photo. #358153

only $44.99!

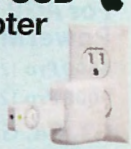
A1 Headphone Amplifier
#652268

only $124.99!

PodFreq
iPod photo version of the premium FM transmitter for iPods. #180879

only $89.99!

iPod shuffle USB Power Adapter
#188269



only $28.99!

MacMall®

Your #1 Source for Mac Products! **Order now: 1-800-965-3282**

Visit us at macmall.com for more Mac solutions! *Source Code: MACADDICT*

$99!

te iPod family.

No payments, no interest for 12 months!

Finance $150 or more & pay no interest until next year!

*FIXED APR: On your MacMall credit card, subject to credit approval. (This is a same as cash offer. Minimum $150 purchase required.) If the balance on these purchases is paid in full before the expiration of the 12-month promotional period and your Account is kept current, accrued Finance Charges will not be imposed on these purchases. If the balance on these purchases is not paid in full, Finance Charges will be assessed from the purchase date at the Standard Rate of 23.99% APR. For Accounts not kept current, the promotion will be cancelled and the Default Rate of 27.99% APR and monthly payments will apply. Minimum Finance Charge is $2.00. Certain rules apply to the allocation of payments and Finance Charges on your promotional purchase if you make more than one purchase on your MacMall credit card. Call 1-888-367-4310 or review your cardholder agreement for information. "No interest" offer applies to any order of $150 or more. Offer ends May 8, 2005.

NEW iPod mini starting at **$194!**

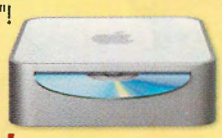
FREE!*

Shipping! (all orders over $99!)
Memory!† (up to $119 value!)
Carrying Case! ($29.99 value!)

*After mail-in rebates. See below for details.

NEW Mac mini

Only 6.5" x 6.5" x 2"!
FREE Shipping!



starting at **$494!**

iMac® G5

FREE Shipping!*
FREE 256MB RAM!†

starting at **$1,294!**

PowerBook® G4

FREE Shipping!*
FREE up to 512MB RAM!†
FREE Carrying Case!*

starting at **$1,594!**

Power Mac® G5

FREE Shipping!*
FREE up to 1GB RAM!†

Display sold separately.

starting at **$1,494!**

iBook® G4

FREE Shipping!*
FREE 512MB RAM!†

starting at **$899!**

Great Deals on Accessories from MacMall!

19" LCD Display

#372518 PRINCETON

only **$295.99!**
After $100 mfr. mail-in rebate.
Price before rebate $395.99.
Offer expires 4/30/05.

17" LCD Display

#486824 GEM

only **$159.99!**
After $70 mfr. mail-in rebate.
Price before rebate $229.99.
Offer expires 4/30/05.

iLife '05 Mac

#188278

only **$74!**

QuarkXPress 6.5

#958816 QUARK

only **$699!**

REV FireWire Backup Drive

iomega #459719

only **$355!**

TuneJuice

GRIFFIN TECHNOLOGY

Perfect for extending the play time of your iPod. #193849

only **$19.99!**

AirPort Express

With Air Tunes.
#448199

only **$119.99!**

Great Flash Deals!

Save $25 | Save $20 | Save $25

#660825	512MB Secure Digital Card	~~$57.95~~	$32.95!*
#964647	256MB CompactFlash Card	~~$31.99~~	$11.99!*
#136443	DiskGO! 256MB USB 2.0 Flash Drive	~~$46.99~~	$21.99!*

*With mfr. mail-in rebate. Offers end 4/30/05.

†FREE RAM OFFER-RAM is free after $119 MacMall mail-in rebate for PowerBook G4 models (price before rebate is $119) or $49.95 MacMall mail-in rebate for eMac G4 models (price before rebate is $49.95) or $99 MacMall mail-in rebate for iBook G4 and Power Mac models (price before rebate is $99). No rebate is required for iMac G4 models. Free RAM is not available for Mac mini. All free RAM offers require an additional $39.99 professional installation fee. *FREE SHIPPING OFFER-Offer applies to all orders over $99! After MacMall mail-in rebate. Certain restrictions apply. Not valid with any other discounts. Hurry! Offer ends soon! FREE SPEAKERS OFFER-After $9.99 MacMall mail-in rebate when purchased with any iPod or iPod mini. Price before rebate is $9.99. #569636 FREE PODSUIT OFFER-After $13.99 MacMall mail-in rebate with purchase of any iPod or iPod mini. Not available for iPod shuffle. Price before rebate is $13.99. FREE ENGRAVING OFFER-Get your iPod or iPod mini engraved for FREE when you purchase it through MacMall. Not available for iPod shuffle. Place your order now, then visit www.macmall.com/myiPod for details. FREE FM TRANSMITTER OFFER-With any iPod purchase after $19.99 MacMall mail-in rebate. Qualifying products: any iPod mini (Griffin iTrip mini #472978), any iPod 20GB – 60GB (Griffin iTrip #472977) or any iPod shuffle (Newer Tech RoadTrip #539343). Price before rebate is $19.99. All offers end 5/8/05 or while supplies last.

Spring has sprung

(And everything's coming up iPod)

SmartWrap 3-Pack

True it's another colorful hunk of silicone. It's also something you should have thought of. Wrap your excess headphone cord around the SmartWrap, and away you'll go in streamlined style.

sumajin

PocketDock

Apple's new crop of iPods is coming up without FireWire, once a staple in the iPod experience. Our family of PocketDocks lets you leave your dock - and your USB cable - at home.

sendstation

iSkin Wild Side
Funk it up to the max, yo. Wild Sides come with hypnotic wheel cap, matching screen Shades, and a whole lot of attitude.

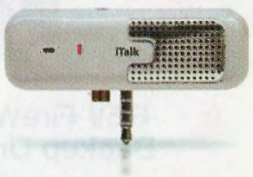
iSkin

naviPro eX
The next generation of iPod remote control, with album, slide show, or chapter navigation. Get it for 4G, mini, and black for the U2.

TEN Technology

Tune Power
Give yourself a little more time outside with the sleekest of external batteries. Offering up to 10 hours of additional juice.

BELKIN



iTalk
Springtime daydreams mean your attention span isn't what it could be? iTalk will record lectures or meetings for later listening. Like when you're awake.

GRIFFIN

Haute Couture for iPod
Formal wear for your iPod. Sleek leather in black, white, red, and silver, natural or glossy finish. For iPod and iPod mini.

MCA

Dr. Bott LLC

Buy Dr. Bott products at your friendly neighborhood Mac store.
Find one online at http://www.drbott.com/ phone: 800.541.1230

Broadway Photo

Customer Service: 718-338-3028
Local & International: 718-338-1800
24 Hour Fax Hotline: 718-338-3029
Email: info@bwayphoto.com

1-800-951-9632

We specialize in Overnight Delivery. Place Your Order by 7:00 PM EST and Receive Your Order by the Next Business Day! For an Additional $29.95

DISCOVER NOVUS VISA MasterCard AMEX COD

Hours: Mon-Thurs: 9:00am-9:00pm • Fri: 9::00am-4pm • Sun: 9am-7pm • Sat: CLOSED

- 21 Day Satisfaction
- Next Day Air Available
- Worldwide Shipping
- No Surcharge on Credit Cards
- Government & School PO's Accepted

Visit our website at: www.broadwayphoto.com

DIGITAL CAMERAS

NIKON Coolpix 8800 NEW!
- 8.0 MegaPixels
- 10 Opt/4x Dig Zoom

$649.99

NEW! Coolpix 4600 ..... $174.99
Coolpix 5400 ..... $319.99
Coolpix 8700 ..... $499.99

NIKON Coolpix 8400
- 8.0 MegaPixels
- 10 Opt/4x Dig Zoom

$519.99

NEW! Coolpix 5600 ..... $224.99
NEW! Coolpix 5900 ..... $279.99
NEW! Coolpix 7600 ..... $309.99
NEW! Coolpix 7900 ..... $329.99

NIKON D2H
- SLR Type Dig. Camera
- 5.47 MegaPixels
- Uses Nikon AF-D/I/S

$1649.99

NEW! D2HS ..... CALL
NEW! D2X $3699.99

NIKON D70 NEW!
- 6.1 MegaPixels
- 1.8" LCD Screen

$649.99

D100 ..... $879.99
NEW! D70 Kit $849.99

OLYMPUS C770
- 4.0 MegaPixels
- 10x Optical Zoom

$309.99

C-765 ... $279.99 D-425 ... $129.99
D-545Z ... $169.99 D-595Z ... $229.99
D-630Z ... $249.99 IR-300 ... $289.99

OLYMPUS C-8080 NEW!
- 8.0 MegaPixels
- 5x Opt/3x Dig Zoom

$549.99

C-5060 ... $399.99 C-5500 ... $269.99
C-60 ... $249.99 C-70Z ... $409.99
C-7000 ... $419.99 C-7070 ... $539.99

OLYMPUS Evolt E-300 NEW!
- 5.0 Million Pixels
- 1x Opt./1x Dig Zoom

$699.99

E-1 ..... 99.99
NEW! Stylus 500 ..... $289.99
NEW! Sty Verve Dig (R/S/W) ... $229.99
NEW! Sty Verve Dig S. $279.99

PENTAX *IST-DS
- 6.1 MegaPixels CCD
- 2.0" LCD Screen

$609.99

*IST-D $849.99
MX4 ..... $219.99 OPT X ... $289.99

PENTAX Optio 750Z NEW!
- 7.0 MegaPixel CCD
- 8x Dig./5x Opt. Zoom

$399.99

50 ..... CALL S5N ..... CALL
S50 ..... $204.99 S5i $259.99
SV ..... $299.99 WP ..... CALL

SONY DSC-F828
- 1.8" LCD Screen
- 4x Dig./7x Opt. Zoom

$609.99

DSC-S40 ..... CALL
DSC-S60 ..... CALL
DSC-S90 ..... CALL
DSC-F88 ..... $249.99

SONY Mavica CD-500
- 4.0 MegaPixels
- 2.5" LCD Screen

$409.99

CD-350 ..... $269.99
FD-200 ..... $249.99

SONY DSC-P200 NEW!
- 7.2 MegaPixels
- 3x Optical Zoom

$319.99

DSC-P41 ... $154.99 DSC-P73 ... $189.99
DSC-P93 ... $239.99 DSC-P150 ... $339.99
DSC-H1 ..... CALL DSC-W1 ... $259.99
DSC-W5 ... $299.99 DSC-W7 ..... CALL

SONY DSC-T3 NEW!
- 5.1 MegaPixels
- 2x Digital Zoom
- 2.5" LCD Screen

$304.99

DSC-L1 ... $244.99 DSC-M1 ... $409.99
DSC-T11 ... $304.99 DSC-T33 ... $329.99
DSC-V3 $449.99 DSC-T1 ... $309.99

CANON DIGITAL REBEL KIT
- 6.3 Megapixel CCD
- 1x Opt./1x Digital

$649.99

Rebel Digital XT $749.99
Rebel Digital $549.99
SD20 ..... $269.99

CANON EOS 20D NEW!
- 8.2 MegaPixels
- 1.8" LCD Screen

$1049.99

EOS 20D Kit $1119.99
EOS 1D II $3149.99
EOS 1DS II $6499.99
EOS 1DS $5099.99

CANON PowerShot G6 NEW!
- 7.1 MegaPixels
- 4x Optical Zoom

$469.99

A85 ..... $194.99 A95 ..... $249.99
Pro 1 ..... $579.99 A400 ... $579.99
A510 ..... $159.99 A520 ..... CALL

CANON PowerShot S500
- 5.0 MegaPixels
- 3x Optical Zoom

$279.99

SD200 ... $219.99 SD300 ..... $289.99
SD400 ... $319.99 SD500 ..... $409.99
S410 ..... $249.99 S60 ..... $319.99
S70 ..... $359.99 S1-IS $269.99

KODAK DX7590 NEW!
- 5.4 MegaPixels
- 10x Opt./3x Dig. Zoom

$339.99

DX6490 .. $279.99 DX-7630 ... $249.99
EZShare 1 .. CALL EZShareC300 CALL
EZShareC340CALL EZShareZ730..CALL
EZS- Z7590 ..... CALL
DCS-Pro SLR C/N $2949.99

CASIO EX-Z55 NEW!
- 5.0 MegaPixels
- 3x Opt./4x Dig. Zoom

$289.99

EX-P505 ... CALL EX-P700..$389.99
EX-S100 .$239.99 EX-Z50 ... $239.99
EX-Z57 ..... CALL EX-Z750 ..... CALL
QVR-61 ..$259.99 QVR-62 ..... CALL

FUJI FinePix S3
- 12.3 Mega Pixels
- 2.0" LCD

$1699.99 NEW!

FP E500 ...$174.99 FP E510 ..$199.99
FP E550 ...$249.99 FP A340...$149.99
FP S20 Pro ...$409.99 FP S2 ..... $1049.99

FUJI Finepix S5100
- 4.0 MegaPixels
- 10x Optical Zoom

$249.99

FP 3100 ... $199.99 FP F440 ... $219.99
FP A345 ..... CALL FP A350 ..... CALL
FP F10 ..... CALL FP Z1 ..... CALL

MINOLTA Dimage A200 NEW!
- 8.0 MegaPixels
- 7x Optical Zoom

$509.99

E50 ..... $249.99 X31 ..... $139.99
X50 ..... $239.99 G600 ..... $219.99

MINOLTA Dimage Z5 NEW!
- 5.0 MegaPixels
- 12x Optical Zoom

$369.99

Z2 ..... $259.99 Z3 ..... $299.99
Z10 ..... $189.99 Z20 ..... $249.99
NEW! Maxxum 7 Digital $1099.99

PANASONIC DMC-FZ20 (K/S) NEW!
- 5.0 MegaPixels
- 12x Optical Zoom

$409.99

FX-2 ..... $249.99 FX-9 ... $249.99
FX-7 ..... $329.99 FZ-4 ... $329.99
FZ-5 ..... $359.99 FZ-15 .. $349.99
LC-1 ..... $699.99 LC-80 .. $264.99

DIGITAL VIDEO

CANON GL-2
- 20x Optical Zoom
- 100x Digital Zoom
- 2.5" LCD Screen

$1469.99

NEW! XL-2 ..... $3299.99
NEW! ZR-100 ..... $289.99
NEW! ZR-200 ..... $319.99
NEW! ZR-300 ..... $359.99
NEW! ZR-400 ..... $389.99

CANON ELURA 90 NEW!
- 1.33 MegaPixels
- 20x Optical Zoom
- 2.5" LCD Screen

$499.99

Elura 65 ..... $369.99
Elura 70 ..... $419.99
NEW! Elura 80 ..... $389.99
NEW! Elura 85 ..... $419.99

CANON OPTURA 500 NEW!
- 2.3 MegaPixels
- 10x Optical Zoom
- 200x Digital Zoom
- 2.5" LCD Screen

$699.99

Optura 30 ..... $449.99
NEW! Optura 50 ..... $549.99
NEW! Optura 60 ..... $609.99
NEW! Optura 400 ..... $589.99
Optura XI $719.99

JVC GZ-MC200 NEW!
- 2.12 MegaPixels
- 10x Optical Zoom
- 200x Digital Zoom
- 1.8" Color LCD

$749.99

NEW! GZ-MC100 ..... $619.99
NEW! GZ-MC500 ..... CALL
GR-DX77 ..... $319.99
JY-HD10U $1949.99
GY-DV300 ..... $1549.99
GY-DV5000 ..... $3699.99

JVC GR-HD1
- 200x Digital Zoom
- 10x Opt. Zoom
- 3.5" Color LCD
- USB

$1649.99

NEW! GR-D250 ..... $279.99
NEW! GR-D270 ..... $289.99
NEW! GR-D295 ..... $319.99
NEW! GR-DF430 ..... CALL
NEW! GR-DF450 ..... CALL
NEW! GR-DF550 ..... CALL
NEW! GR-X5 ..... CALL

SONY DCR-HC1000
- 12x Optical Zoom
- 150x Digital Zoom
- 2.5" LCD

$949.99 NEW!

NEW! DCR-HC21 ..... $339.99
NEW! DCR-HC32 ..... $399.99
NEW! DCR-HC42 ..... $459.99
NEW! DCR-HC90 ..... $709.99

SONY DCR-VX2100 NEW!
- 48x Digital Zoom
- 12x Optical Zoom
- 2.5" LCD Screen

$1809.99

NEW! DHR-1000 ..... $2979.99

SONY HDR-FX1
- 12x Optical Zoom
- 3.5" LCD Screen

$2749.99

Special! DSR-PDX10 .$1499.99
Special! DSR-PD170 .$2399.99
NEW! DCR-TRV280 ... $264.99
NEW! DCR-TRV480 ... $304.99
NEW! HDR-Z1 ..... $4049.99

SONY DCR-DVD301 NEW!
- 10x Optical Zoom
- 120x Digital Zoom
- 3.5" LCD
- 1.0 MegaPixel

$619.99

NEW! DCR-DVD7 ..... $549.99
NEW! DCR-DVD92 ..... $489.99
DCR-DVD101 ..... $469.99
NEW! DCR-DVD103 ... $529.99
DCR-DVD201 ..... $579.99
NEW! DCR-DVD203 ... $569.99
NEW! DCR-DVD403 ... $689.99

SONY DCR-PC350
- 3.0 MegaPixels
- 10x Optical Zoom
- 2.5" LCD Screen
- BLUETOOTH

$819.99 NEW!

NEW! DCR-PC55 ..... $589.99
DCR-PC109 ..... $509.99
NEW! DCR-PC1000 .... $929.99

PANASONIC PV-GS250
- 3.1 MegaPixels
- 2.5" LCD Screen

$649.99

NEW! PV-GS16 ..... $339.99
NEW! PV-GS19 ..... $299.99
NEW! PV-GS31 ..... $329.99
NEW! PV-GS35 ..... $389.99
Special! PV-GS55 ..... $349.99
NEW! PV-GS65 ..... $449.99
NEW! PV-GS150 ..... $499.99
NEW! PV-GS400 ..... $879.99
SV-AV50A $249.99

PANASONIC AG-DVX100A
- 3-CCD Imaging
- Super VHS
- 12x Optical Zoom
- IEEE-1394

$2299.99 Special!

AG-DV2500 ..... $1279.99
AG-DVC200 ..... $2649.99
AG-DVC7 ..... $749.99
Special! AG-DVC30 ... $1349.99
NEW! AG-DVC60 ..... $1749.99
NEW! AJ-HDX100 ..... CALL
NEW! VDR-M54 ..... $449.99
NEW! VDR-M55 ..... $529.99
Special! VD-RM70 ..... $504.99
NEW! VDR-M75 ..... $569.99
NEW! VDR-M95 ..... $669.99

VIDEO PROJECTORS

IN FOCUS X2
- DLP
- 1600 Max Ansi Lumenss

$839.99

LP-120 ..... $1399.99
LP-70+ $1299.99

EPSON Powerlite S1+
- 3x .5" LCD
- Digital Zoom

$849.99

Powerlite 730-C $1979.99
Powerlite 61-P $1159.99
Powerlite 81-P $1529.99

BENQ PB7210
- 2200 Max Ansi Lumenss
- DLP

$1509.99

PB 6100 ..... $849.99
PB 7230 ..... $1699.99
PB 8220 ..... $1549.99

TELEVISIONS

JVC LT-32X585 NEW!
- 32"
- HDTV
- W-XGA LCD

$2499.99

PD-42WX84 ..... $3399.99
LT-26WX84 ..... $1599.99
HD-52Z575 ..... $2399.99

PANASONIC TH-42PA20 NEW!
- 42"
- HDTV

$2099.99

TH-42PX25 ..... $3599.99
TC-26LX20 ..... $1699.99
TH-50PX25U $4699.99

SHARP LC-37HV4U NEW!
- 37"
- Aquos Liquid
- TFT Active Matrix

$3199.99

LC-30HV4U $1499.99
LC-20E1U $649.99
LC-20B4U $699.99

SCANNERS

CANON FS4000
- 5888 x 4000 pixels
- 4000 DPI Optical Resolution
- USB

$469.99

NIKON LS50 NEW!
- High Quality CCD Sensor
- 4000 DPI Optical Resolution

$489.99

LS-40 ..... $409.99

NIKON Super Coolscan LS-5000
- 4,000 dpi Optical Res
- 2x-linear CCD
- Multiple film format

$869.99 NEW!

LS-8000 ..... $1909.99
LS-4000 ..... $699.99

PRINTERS

EPSON Stylus 2200P
- USB/Serial Port
- PC or Mac
- 6 Color Small Archival Links

$539.99 NEW!

EPSON Stylus 1280
- Smudge Free Inks
- PC or Mac

$399.99 NEW!

Stylus 3000 ..... $1179.99

OLYMPUS P440 NEW!
- Dye-Sublimation
- 1.8" LCD
- USB

$379.99

Policy: Visa, Mastercard, Discover, American Express, Diners Club, Money Orders, Certified Check, (Personal Checks up to 14,000.00 with name and address imprinted on check). C.O.D. orders are also accepted. Orders by mail please print name address and phone number clearly. Shipping methods - in the Continental U.S.A. will be via Fedex, U.P.S. or Air Mail. Over size items via truck. Shipping and Handling are additional. 21 days for return or exchange (video & digital 7 days) with prior authorization only. (Call customer service for authorization number). Shipping and Handling are not refundable. All returns are subject to a minimum restocking fee of 5%. Prices may reflect mail-rebate. All returned merchandise must be in new condition and must include all packaging and printed material in original, unaltered condition. Broadway Photo is not responsible for typographical errors. All items are covered by USA, International or Broadway Photo and Video Warranty. Prices subject to change. Please check our website for current prices. All our merchandise is brand new and factory fresh. Quantities are limited. Thank you and enjoy your order. MA 5/05

Call The Mac Experts!

New Apple Computers

We Have Over 20 PowerBook Configurations to Choose From!

12" G4/1.33GHz: *256MB RAM, 60GB HD, Combo drive, 56k modem Airport Extreme* **$1299**

12" G4/1.5GHz: *512MB RAM, 60GB HD, Combo drive, 56k modem, Airport Extreme, SMS, Scrolling trackpad* . **$1494**

15" G4/1.5GHz: *512MB RAM, 80GB HD, Combo drive, 56k modem, Airport Extreme, SMS, Scrolling trackpad* . **$1994**

17" G4/1.33GHz: *512MB RAM, 80GB HD, Superdrive, 56k modem, Bluetooth* **$2399**

17" G4/1.67GHz: *512GB RAM, 100GB HD, Superdrive, 56k modem, Airport Extreme, SMS, Scrolling trackpad* . **$2694**

Free Shipping on Any Order Over $100!*

$75 RAM Rebate on Any New CPU!†

Special Offers on Custom-Configured Machines

G4/1.25GHz Mac Mini: *512MB RAM, 40GB HD, Combo drive, 56k modem* **$574**

G4/1.25GHz Mac Mini: *512MB RAM, 40GB HD, Combo drive, 56k modem, Airport Extreme Card* **$653**

G4/1.0GHz iMac: *1GB Apple RAM, 80GB HD, Combo drive, 56k modem 15-inch display* **$1298**

G5/1.6GHz iMac: *512MB RAM, 80GB HD, Combo drive, 56k modem, 17-inch display* **$1374**

Build Your Own Xserve RAID -- Ask Us How!

*after rebate †excludes Mac minis

Looking for Selection?

The PowerMax warehouse is stocked with over 1000 different Mac configs; from fully loaded G5 Power Mac Duals to Certified Pre-Owned Indigo iMacs -- *we've got it all.* We'll even custom-configure a Mac for you. Get more RAM, larger hard drives, wireless networking and more!

Certified Pre-Owned Macs

You can't find a cleaner, more reliable Certified Pre-Owned Mac than a PowerMax machine. We literally refurbish hundreds of pre-owned Macs every month. Each machine is extensively cleaned, bench-tested and carries a 90-Day Warranty.

Graphite Towers and Snow iBooks waiting to be refurbished

A sample of our massive Certified Pre-Owned inventory

Certified Pre-Owned Specials

Power Mac Dual G4/450MHz Graphite
256/30/DVD-ROM – 5 more like this **$729**

Power Mac G4/800MHz QuickSilver
256/10/SuperDrive – 14 more like this ... **$1109**

Power Mac G4/1.2GHz Mirrored Door
256/80/Combo/dual boot – 6 more like this **$1479**

Power Mac G3/350MHz Yosemite
128/6/DVD-ROM – 28 more like this **$259**

15-inch PowerBook G4/400MHz Titanium
640/10/DVD – 15 more like this **$949**

14-inch iBook G3/700MHz Snow
256/30/Combo – 75 more like this **$769**

PowerMax Exclusives

Check out the cool products found only at PowerMax

The ProScope

This powerful electronic microscope (up to 200x) connects to your computer via USB. Takes stills and Quick Time movies. Kit includes ProScope, software and 50x lens.

Just $249

Dr. Bodelin's Laptop Bumpers

Extend the life of your laptop with Dr. Bodelin's Laptop Bumpers. These simple, removable and affordable cushions help cool and protect your precious machine. They even angle your laptop for more ergonomic keyboarding!

Just $14.99

multiple color choices available!

PowerMax Batteries

Our exclusive PowerBook batteries last longer than any other brand!

Starting at $119

Displays

The Wacom Cintiq Display/Tablet Combo

Wacom's revolutionary Cintiq interactive pen display combines the advantages of an LCD monitor with the control and comfort of Wacom's most sophisticated cordless, battery-free tablet technology. By using a pen directly on the screen, you work much more quickly and naturally.

Wacom 17SX 17-inch Graphics Tablet Display . . . **$1799**

Wacom 21UX 21-inch Graphics Tablet Display . . . **$2499**

New Display Rebates

17" display - *Get an extra $25 off!*
20" display - *Get an extra $50 off!*
23" display - *Get an extra $75 off!*
30" display - *Get an extra $100 off!*

Apple 17" Cinema LCD Display **$574***
Apple 20" Cinema LCD Display **$994***
Apple 23" Cinema LCD Display **$1719***
Apple 30" Cinema LCD Display **$2894***
Samsung 42" Plasma Monitor **$2135**
Lacie Photon 19" LCD Monitor **$599**

*price after rebate and new CPU purchase

Always Great Deals

Get the Card.

Get the Mac of Your Dreams!

Become a Preferred Customer with PowerMax!

New, Updated iPods: *The new iPod Photo comes in 30GB & 60GB sizes. The Mini now comes in 4GB & 6GBs*

AppleCare for iPod a great investment **$59**
iPod shuffle 512MB **$99**
iPod shuffle 1GB **$149**
4GB iPod Mini ..... New Lower Price! **$179**
***NEW!* 6GB iPod Mini** **$249**
20GB iPod previous model **$299**
***NEW!* 30GB iPod Photo** **$349**
40GB iPod iPhoto previous model **$379**
***NEW!* 60GB iPod Photo** **$449**
60GB iPod iPhoto previous model **$479**

We've Got Great iPod Accessories, Too!

Storage Solutions

LACIE

Lacie is breaking the limits of hard drive capacity with their new Big Disk Extreme!

160GB d2 Extreme w/ Triple Int . **$179**
250GB d2 Extreme w/ Triple Int . **$249**
400GB d2 Extreme or Triple Int . **$369**
500GB d2 Extreme or Triple Int . **$399**
1.0TB d2 Extreme or Triple Int . **$929**
1.6TB d2 Extreme Hard Drive . **$1899**
FireWire 800 PCI Card **$69**
DVD+/- RW 16x DL FW with Toast Titanium **$189**

www.powermax.com

POWERMAX™

Knowledge is Power

800-441-6977

Local: (503) 624-1827 • **Fax:** (503) 627-1635

Email: sales@powermax.com

Personal Financing • Fast P.O. Approvals • Business Leasing • Daily Specials on our Web Site

Authorized Reseller

Apple Specialist

Prices subject to change without notice. Credit card orders strictly verified against fraudulent use. With use of credit card as payment, customer acknowledges that some products are subject to final sale. Many prices are limited to stock on hand. All brand names are registered trademarks of their respective holders. Not responsible for typographical errors.

Are You A Member Of A User Group?

www.applemugstore.com

PowerMax is a division of CSNW, Lake Oswego, OR

Macintosh User Group members enjoy access to a very special Apple-sponsored web site featuring super deals on the latest Apple products and more! If you are currently not a member of an Apple User Group and would like access to the Mug Store special offers, discounts and resources, then contact an Apple User Group near you and sign up!

MUG STORE

Macworld BEST OF SHOW MacExpo London 2004

Works with AirPort Express

- Connect to AirPort Express to control iTunes
- Connect directly to Mac to control iTunes, DVD, QuickTime and more!

Part# URM-17A MSRP $59

EXPRESS REMOTE

The Ideal Presentation Tool!

Presentation Standing Ovation Award

- RF connectivity
- Laser pointer
- 2-button mouse
- Programmable

Part# PR-US2 MSRP $59

PRESENTATION REMOTE

KEYSPAN Connections for your Computer www.keyspan.com

DATA RECOVERY: 800-440-1904

7 great reasons to choose DriveSavers:

- Fast, advanced, proprietary techniques.
- All operating systems; Mac, Windows, OS/2, Netware and UNIX.
- All storage devices including SAN, RAID and NAS systems.
- Instantly retrieve recovered data with DataExpress™.
- Recommended and certified by all hard drive manufacturers.
- Government Contracts
- Featured on MacAddict, MacWorld, CNN, BBC and others.

"We Can Save It!"

DriveSavers Data Recovery Since 1985

Visit DriveSavers at www.drivesavers.com

©2003 DRIVESAVERS, INC. 400 BEL MARIN KEYS BLVD., NOVATO, CA 94949 INTL: 415-382-2000

INCREDIBLE DEALS

iMacs • PowerMacs • Hard Drives • CDROMS • RAM • Monitors • Video Cards • Service Parts • MORE

iMacs	starting at	$79
Monitors	starting at	$19
Printers	starting at	$9
CDROM	starting at	$1
RAM	starting at	$12
Cables	starting at	$1
Drives	starting at	$2

http://shop.poweron.com

800-673-6227 916-677-6227

90 day warranty
20% Return / Restock
NO SURCHARGES

macally™

Made for iPod

All New iPod Accessories

BLUEWAVE

Bluetooth Stereo And Tune Streaming Headset

Portable Stereo Speakers

PODWAVE

Stereo Speaker / Charger

ICETUNE

Call us for dealers near you 1.800.644.1132 or visit us at: www.macally.com

24-Hour PowerBook Repairs And Upgrades!

WORLDWIDE

PowerBook Restore

Powerbooks and iBooks

24-Hour Repairs
SuperDrive Upgrades:
8x, 8x Dual Layer - from $179
Hard Drive Upgrades With Data Transfer
NEW Stainless Steel Hinge Replacements
Flat - Rate LCD Screen Repairs:
iBook - $399
PowerBook G4 - $499
Includes Overnight Pickup & Return!

From $49

iPodRestore

iPod Repairs & Upgrades

24-Hour Repairs - All Models
Hard Drives, Screens,
Audio Jacks, Data Ports,
Cases, 20 Hou[illegible]
Original Apple iPod Accessories

From $10

1-877-For-iPod

PowerBook & iBook Liquidation!

G4/500 15" DVD: $769	iBook G3/600 12" CD: $499
G4/667 15" Combo: $889	iBook G3/700 12" CD: $519
G4/867 12" Combo: $899	iBook G3/800 12" DVD: $549
G4/1GHz 17" SD: $1799	iBook G3/900 12" DVD: $689

Visit us online for more deals, latest price drops!

TechRestore.com
1-866-96-RESTORE

FAMILY HISTORY - GENEALOGY

REUNION® 8

Reunion 8 is the perfect tool to organize your family history. Plenty of room for names, dates, places, stories, notes, tidbits, and sources. Include all your favorite pictures, sounds, and home movies. Automatically build multimedia web pages to share your family history on the Internet! Print large, colorful tree charts, timeline charts, and fan charts for family reunions. Fun and educational for the whole family. Reunion 8 takes advantage of OS X and includes over 100 new features and enhancements!

Mac Addict RATED 5/5 FREAKIN' AWESOME! www.macaddict.com

Leister Productions
web site/demo: www.LeisterPro.com
e-mail: info@LeisterPro.com

To order, call...
MacConnection 800-800-2222

Handles for Ibooks, Ti, 12, 15, 17 PB

Handles & Antennas

Want better signal and easier transport where ever you roam? QuickerTek has you covered on both ends.

Visit us online today!

Go farther.
QUICKERTEK
www.quickertek.com

LIND
"Your Essential Source"

Power Accessories for Mobile Computing

Auto/Air Power Adapters for all Titanium G4s & iBook models

Replacement Mini AC Adapters for all Titanium G4s & iBook models (65 Watts max.)

Lind adapters feature:
- *Fault protection circuitry with Automatic reset*
- *Durable ABS housing*
- *Nylon carrying case*

Mini AC adapters feature:
- *100 - 240 auto switching input*
- *Fold away outlet prongs*
- *Convinient cable wrap with Velcro™ Strap*
- *4.1 x 1.6 x 1.1"*

LiIon Auxiliary Power Packs
For all Ti G4s & iBooks

Extend your laptop runtime 3 to 4 times longer Lightwieght 2.4(MP60)lbs - 3.4(MP90)lbs Size - 11.25 x 8.5 x .5"

MaxPower 60(95WH) & MaxPower 90(140WH)

Order online at:
www.lindelectronics.com
or call #800-897-8994 to order

Lind Electronics, Inc. 6414 Cambridge Street, Minneapolis, MN 55426 #952-927-6303

New Product

Drive Genius

Maintain, Manage, and Optimize Your Hard Drive

Clone • Partition • Defragment • Repair • Rebuild • Test • Analyze
Verify • Initialize • Shred • Scan • Edit And More

Check Our Website For Hot Upgrades From Competing Products...

1-877-4-PROSOFT www.prosofteng.com

Web Hosting
Starting at... $8.95 mo

Web Design
Starting at... $897

TWest®

www.TWest.com
sales@twest.com (866) 77-TWest

DATA Backup

Backup, Made Easy

Easy to use • Automatic operation • Full or selective backups
Cloning • Incremental • Synchronize • Encrypt • Compress
Finder readable backups • Works with any drive

Buy Online - Backup Now, Free Demos...

1-877-4-PROSOFT www.prosofteng.com

OmniCleanz™

New!

Advanced molecular release agent safely cleans ALL **Displays, Lenses, CDs** and much more!

"...it's the best display-cleaning juice I've ever used."
Bob Levitus
Houston Chronicle

www.radtech.us/ma RADTECH™

Software Savings for Students, Teachers, and Schools!

Get up to 85% off retail software prices on the brands you know and use...

Adobe®
Photoshop CS
Save! 57%
Order Today!
Get the Best for Less!

Macromedia®
Studio MX 2004
Save! $710
Now! $189.95
4 Programs - 1 Price!

Quark®
QuarkXpress 6.1
Save! $856
Now! $189.95
The Industry-Standard!

Wacom®
Intuos3 6x8
Save! $50
Now! $279.95
Great Graphics Tool!

We carry thousands of industry-leading software and hardware products at huge discounts for students, teachers and schools. These special prices are ONLY for the academic community. And our prices are typically $10-$20 lower than most college bookstores! Call or visit us online today and start saving!

Adobe®
Acrobat Pro 7.....**Save 69%**
Creative Suite.....**Save 69%**
Video Collection.....**Save 55%**

Alias®
Maya Complete Student.....**$289**

Canopus®
ADVC-300 A/D Converter ...**$399**

Macromedia®
Flash MX 2004 .....**$95**
Dreamweaver MX 2004 .....**$95**
Contribute 3 .....**$89**

MakeMusic®
Finale 2005.....**$199**

Microsoft®
Office 2004 Student/Teacher ..**$139**

This Month's Featured Titles:
hp Business Inkjet 1200d ...**$309**
Eovia Carrara 4 Pro **$139**
Apple iWork.....**$75**
Inspiration 7.6 .....**$49**
Avid Xpress Pro Student.....**$295**
Painter IX.....**$95**
Epson Stylus Photo R1800 ..**$499**
Sibelius 3.....**$209**

Parents:
Buy for your students at home or away at college!

Give us a call anytime! 1-800-294-4035
Visit us online! MA.AcademicSuperstore.com

ACADEMIC SUPERSTORE

MEGA MACs .com

WE BUY MACS! We stock many parts! 918-664-MACS fax 918-663-6340 (6227)

G3 & G4 iBooks | **iMac & eMac** | **G3 PowerMacs** | **G5 PowerMacs**

G3 366 $379† · G3 500 $449† · G3 700 $529† · G3 800 $609†
Print Shop 7 for OS 9 $14 · Print Shop 8 for OS X $47

G3 Trayload $199† · G3 Slotload $299† · G4 Flat Panel $449
AirPort Cards $109

Beige $69† · Blue & White $219†
AirPort Extreme $69

DP 1.8 Ghz $1749† · DP 2.0 Ghz $2149†

Rechargeable Optical Wireless Mouse
Kensington StudioMouse Wireless $34

Iomega Clearance Specials

Zip 100MB disks 3/4/6/10 pack	$10/13/19/32
Zip 250MB disks 4/6/8 pack	$19/24/31
Zip 100MB USB Powered Drive	$29
HipZip 80MB MP3 Player	$29
HipZip Auto Adapter	$14
Pocket Zip Disks	$4
Peerless FW drive 10GB	$49
Peerless 10GB Cart/ Extra FW Base	$34/14
FotoShow Travel Kit / Remote	$19/19
FotoShow AC Adapter/S-Video Cable	$19/4
Ditto Cartridges 3.7/5GB	$6/9
24x10x40 USB CDRW	$44
40x12x48 FW CDRW	$65
Jaz 50pin HD to 50pin Centronics Cable	$14
Zip Monitor Mirror	$4

FREE w/ online $10 purchase
www.megamacs.com/iomega

FANTOM DRIVES
16x FW DVD+RW $138
160GB FW / USB 2 HD $144
800GB FireWire 800 $966
See megamacs.com/fantom

LACIE AUTHORIZED RESELLER
Ext. P2 40GB FW&USB $147
Ext. Porsche P3 160GB FW $148
See Megamacs.com/lacie
FREE ground shipping on LaCie drives!††

Notebook Accessories

Body Glove Notebook cases fits up to 17"	$24
Olympia Backpack Ergonomic!13"x17"x7"	$14
Notebook Locks Kensington Microsaver/Targus Defcon	$29/14

Brenthaven *High Performance Computer Cases up to 50% off MSRP*
Profile 12"/15" • Pro shoulder 15"/17" $48 / 52 / 85 / 85
Mobility One • Oversized / Fusion Flex $56 / 94 / 94

Keyboards

MacAlly Media Keyboard	$34
Internet Navigator	$21
USB Rollup keyboard	$19
Gravis USB Gamepad	$9

Mice

Nyko 2button Optical	$12
Logitech Cordless	$14
Kensington Orbit	$15
Apple Pro Mouse~	$38

Speaker BLOWOUT!

Harman Kardan		JBL	
Champagne black	$34	Creatures white, silver or blue	$59
Champagne woodgrain, white	$34	19.5 Speakers	$13
Duets	$24	Invaders (80 watts!)	$49

Final Cut Express v.1-/ HD* $59/149
Final Cut Pro HD* $549

Intego Internet Security Barrier
Family Edition • Net Barrier • Virus Barrier • Content Barrier
Professional Edition • Net Barrier • Virus Barrier • Content Barrier • Personal Backup
$39 $99 MSRP
$49 $129 MSRP

Get all for $29 (save $32!)
Appleworks 6.2- $19
iLife 03- $9
Games CD- Bugdom, Nanosaur and Cro-Mag Rally! $4
Mayo Family Health / World Book Encyclopedia- $4/4
Bodyworks 5.0- /Master of Orion II- $4/4
Grolier 1997 Multimedia Encyclopedia- $5
Adobe Pagemill 2.0- $9

Office 2004
Standard ~$179/249
Pro $469

Applecare MegaDeals

iPod	$46
iMac / eMac	$117
PowerMac G4/G5	$168
iBook	$177
Powerbook G4	$244

Mac OS

8.1	$34
8.5~	$79
9.1~	$39
X.2 Jaguar**~	$22
X.2 upgrade~	$44
X.3 full install~	$69
X.3 retail	$99
Panther X.3 CD~ w/ iLife '03 / 04	$64/79

Virtual PC 7 w/Windows XP- $194
SystemWorks 3.0.1 $69
Mac OS X.3 Panther OEM / Retail $59/99
OEM w/iLife 03 / 04 CD- $64/89
OEM w/ Tech Tool Pro 4 $150
Retail w/ Tech Tool Pro 4 $164

iLife '04~ $35

FREE Norton SystemWorks 1.0 (OEM) available with any $20 online purchase!
All prices rounded down • Credit cards accepted
Prices subject to change • Not responsible for errors
See website for Pricing Policies
WE BUY MACS! We stock many parts!
* Refurbished, † Pre-owned ^ Upgrade ~OEM, ** Upgrade with previous version ††Free ground shipping only available for online orders

See all these deals and more at www.megamacs.com/macaddict

macro enter

Providing Complete Solutions to CAD/AEC & Design Professionals

VectorWorks
$975
Industry Standard 2d/3d CAD Software

Encad T-200+ Mac OS X Unbeatable Bundle
$2,999

MacDraft
$299
Easy to Use 2d CAD

UZR iModeler Web $99
Create 3D Models Using Your Digital Camera

SEH IC-105 Print Server
$189
Connect Your Printer To Any Network

- MacDraft P.E. $119
- DWG Viewer $49
- Microspot Interiors $129
- 20 lb Bond Paper $7.11/Roll
- Encad and HP Printers
- SEH Networking
- Plotter Paper and Ink

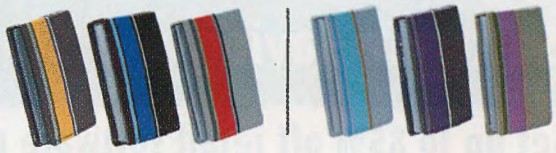
Call us or check out our website for a complete selection of our products. Academic prices are also available.

1-800-622-7568
www.macroenter.com

Value Added Reseller

WWW.MARWARE.COM

TrailVue color options



Metrovue 3 pack

MARWARE
cases to fit all iPod models

MEMORY for PC and Apple, Laptops, Digital Cameras, MP3 Players and more ...

WE CAN BEAT Crucial, Kingston, Comp-USA, ANYONE! AND, WE GIVE YOU

FREE SHIPPING!

- ✓ We Manufacture Our Memory Using the Highest Quality Components
- ✓ Lifetime Warranty
- ✓ Compatibility Guaranteed
- ✓ Free Technical Support
- ✓ Experienced Sales Staff Since 1994

18004MEMORY.com™

1-800-4-MEMORY

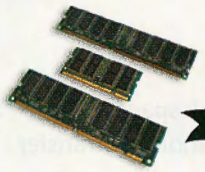
1-800-463-6679

http://www.18004memory.com

WWW.MEMORY SOLUTIONS.COM

We've got all the memory solutions you need for:

Power Mac G5
Power Mac G4/G3
iMac/eMac
PowerBook G4/G3
iBook G4/G3



CERTIFIED TESTED 100% LIFETIME WARRANTY

SUPER LOW LOW PRICES!

SUPER SAVINGS on Apple® gear!

iPod Mini Silver 4gb 8hr battery with Free Ground shipping $179

PowerBook G4 15" 1.33GHz 256mb/60gb/Combo/BlueTooth/56K/AirPort with Free Ground shipping $1699

Original Apple Service Part Batteries-In Stock!
15" Ti PowerBook G4 Battery
iBook 12" G3 300-466 Battery
iBook all 12" white models Battery
ALL $99

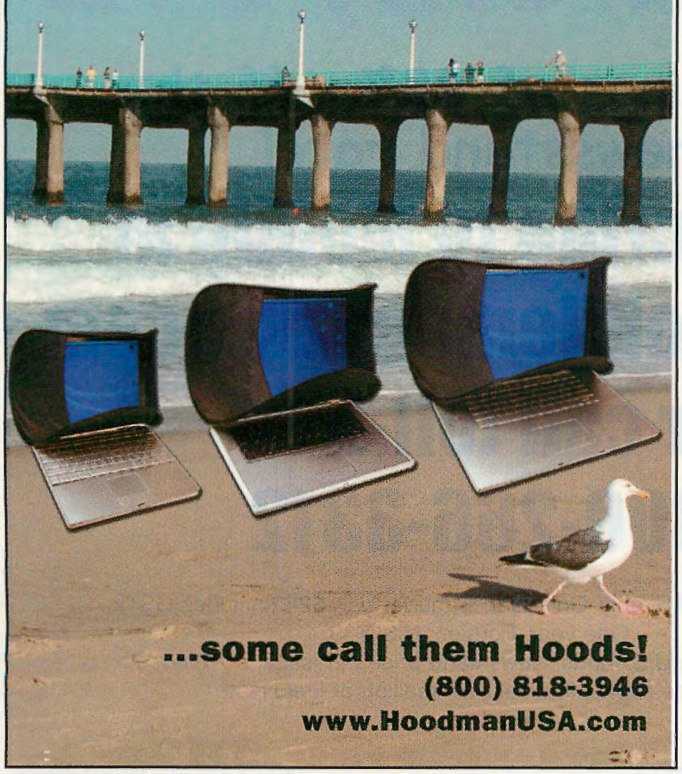
AirPort® Card
Original 802.11B
$79!
limited quantities available

Check Us Out for iPod Goodies, Hard Drives and Accessories!

800-462-2160

Note: Prices are subject to change. MA 309

A day at the beach with the PowerBook® family...



...some call them Hoods!

(800) 818-3946

www.HoodmanUSA.com

MEMORY, DRIVES & MORE!

Apple Specialist

Lifetime Warranty RAM

G5 2gb Kit (2 x 1gb)
G5 1gb Kit (2 x 512mb)
iMac G5 1gb /512mb CHIP
iMac G3/G4 256/512mb/1gb
PwrBook/iBook 512mb/1gb
G4 Tower 256mb/512mb

ALL MEMORY ON SALE!

The memory market is extremely volatile. Prices are always changing. Please call or check our web site for current pricing.

Apple® Specials

iPod Mini's In Stock!!!

SAVE BIG Instant Rebates

www.macsolutions.com

FREE Ground Shipping on all Apple Towers & Displays
* Note: Apple Products are available to our repeat customers only.

Apple Specialist

AIRPORT CARD SPECIAL!!!

Original Apple AirPort® Card 802.11B
ONLY $79!
Adapter for iMac G3 $ 39
quantities limited

The Drives You Need to Succeed!

LACIE EXTREME FREE Ground Shipping on all LaCie Drives!

250GB d2 FW800/400/USB 2.0 $ 259
500GB Big Disk Extreme d2 FW800/400 429

Notebook Drives

Capacity	Cache	
80gb 5400rpm		$149
100gb 5400rpm		Call

Internal Serial ATA

Capacity	Cache	
160gb	8mb	$ 99
250gb	8mb	149

TRADE IN YOUR G4 OR G5 POWER MAC

since 1994

MAC Solutions®

MacSolutions.com

11933 Wilshire Boulevard, West LA, CA 90025
Phone: (310) 914-3200 Fax: (310) 966-4433
University & School P.O.'s Welcome. Prices subject to change without notice. Ad code 307

800-873-3726

Come On, Show Your Site Some Love...

Get a FatCow™

- 1 Gig of disk space
- 30 Gigs of monthly transfer
- 100 email boxes
- WebMail
- Spam & virus filtering
- ShopSite Shopping Cart
- SiteDelux Site Editor

$8.25* a month

Get a MiniMoo

- Domain parking
- 1 email account
- WebMail
- Spam & virus filtering
- Customize your own coming soon page
- No Setup Fees

$5/year

30 - Day Money Back Guarantee

FatCow™ Since 1998

- Web Statistics
- CGI, PHP, MySQL
- Search Engine Tools
- Message Board
- Toll-Free Support

www.fatcow.com/addict
Toll Free 1.800.925.2184

*Monthly rate based on the annual fee of $99, due at signup.

Copyright © 2004 FatCow Web Hosting

RAMJET High-Performance Mac Memory

iMac G5
256mb - $55
512mb - $99
1Gig - $249

iBook G4
256mb - $69
512mb - $99
1Gig - $299

PowerMac G5
512mb - $99
1Gig - $199
2Gig - $389

PowerBook G4
512mb - $99
1Gig - $299

eMac DDR
256mb - $55
512mb - $99
1Gig - $199

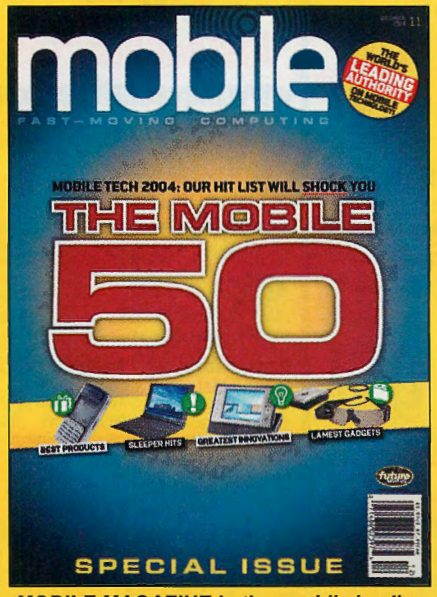
G4 DDR
512mb - $99
1Gig - $199
2Gig - $389

Lifetime RAMJET Warranty

Secure Online Ordering:
WWW.RAMJET.COM
1-800-831-4569

Better RAM Means Fewer Crashes.

12 issues for only $12

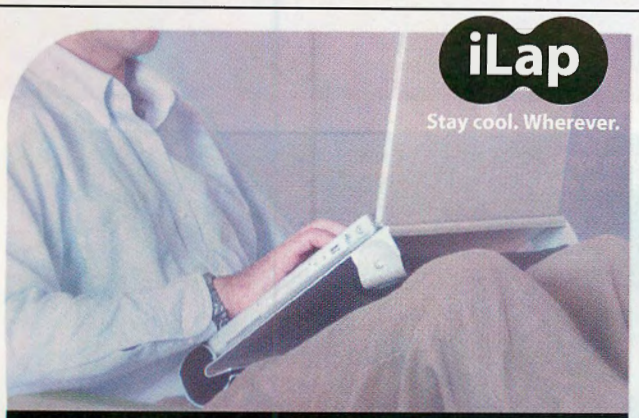


MOBILE MAGAZINE is the world's leading authority on mobile technology

A savings of 83% off the newsstand rate!

Subscribe to Mobile at www.mobilemagazine.com or call toll-free 800-266-3312

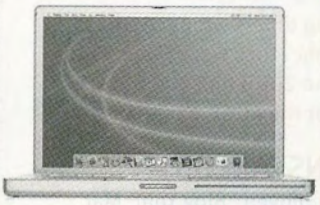
Offer good in U.S. only. One year, Canada: U.S. $26 (includes GST).
One year, Foreign: U.S. $39.
Prepaid in U.S. funds. Newsstand price per issue is $5.99.
Please allow 6-8 weeks for mailing of first issue.



MacAddict RATED GREAT

1.800.797.7321 www.raindesigninc.com **rain design**

MacPrices.com
Nothing But (Mac) Prices



Find the lowest price!
Get the best free bundles!
www.macprices.com

MAC OF ALL TRADES®

WE BUY AND SELL
USED MACS

www.macofalltrades.com

MAC-PRO
SYSTEMS & SOFTWARE

Tons of the Hottest iPod Gear in Stock!
PowerBooks! Towers! Parts! Parts! Parts!

Lowest Prices
Fast Delivery

Everything Macintosh...Everything!
www.mac-pro.com
800-525-3888

MacAddict.com
GET WHAT YOU NEED

Simply Talk...
...and leave the typing to us.

Still only
$149.00
with USB headset!

MacSpeech is the only company currently developing dictation software for Macintosh. iListen users enjoy the ability to dictate into virtually any application, hands-free correction, and the largest set of voice commands available on any platform.

Available at the finest Mac resellers or from www.macspeech.com.

MacSpeech
A "Mac-only" company

Broken Powerbook?
FixIt. Cheap.

avoid costly service
do-it-yourself **Powerbook** & **iBook** repair
free online FixIt Guides
thousands of parts and upgrades
6-month warranty on most products

PB FIX IT
www.pbfixit.com

Special web site hosting offer for MacAddict Readers!

Macintosh Web Hosting & Co-Location

877-858-7722
www.Inno-Tech.com/MacAddict

Exclusive hosting provider for MacAddict

InnoTech
INTERNET PRESENCE SPECIALISTS

LETTERS

PATTERN RECOGNITION

Here's something I came across recently that I haven't seen mentioned elsewhere. Look at the Mac OS 10.3 (aka Panther) install disc (top left) and the soundtrack CD for the Denzel Washington biopic *Malcolm X* (top right).

Imitation is the sincerest form of flattery.

Notice anything? Makes you wonder about Tiger—will its logo resemble my design with the crossed golf clubs (bottom left)?—*Peter Weisz*

MAKES CENTS

I noticed in *What's New* (Mar/05, p15) that logear (www.iogear.com) is selling its 20GB 1.8-inch Ion combo drive for $249.95—the same price as its 40GB model. I think I'll buy two of the 20GBs instead of one 40GB. That's just good shopping cents. (Tee-hee ... get it? Cents? Sense?)—*Paul Barker*

We get it, Paul, we get it—and we got the prices of the Ion drives wrong. At press time, they were $209.95 for the 20GB unit and $259.95 for the 40GB one.—*Max*

INSTABLOG

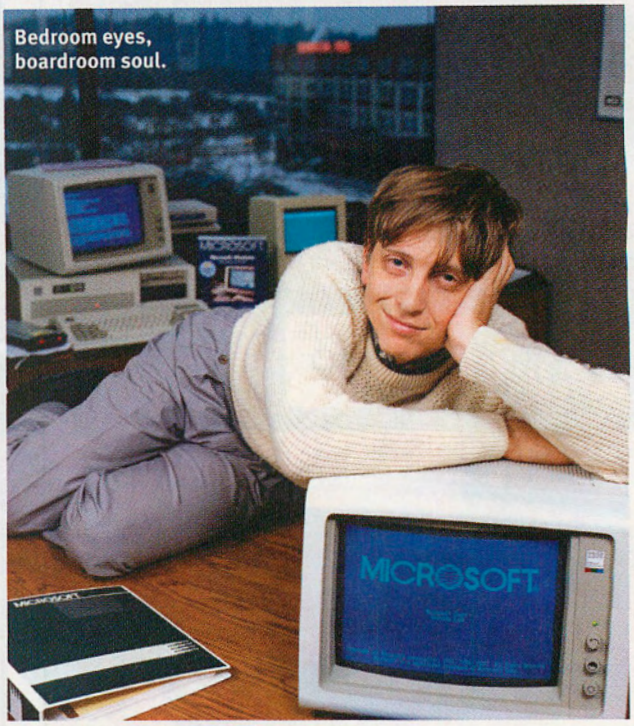
I enjoyed "Blog Your .Mac HomePage" (Mar/05, p52). I have a blog of my own (www.wizardswords.blogspot.com) that I built in about 30 minutes using Blogger. To find this service (it's free, by the way) go to Google.com, click More, scroll down, and click the red-orange B icon. If you like what you see, get busy and make a blog! I can't write a line of code, but I *can* use Blogger.—*Wizard*

TAPED DECK

My son Ben, an avid card-trick enthusiast as well as a creative artist, did some cutting and taping when he got his new iPod last week. The result was his new Loaded Deck iPod case!
—*James Steele*

Oh, that Ben—what a card!—*Max*

Giving new meaning to the term recording deck.



Bedroom eyes, boardroom soul.

PHOTOGRAPH BY DEBORAH FEINGOLD / CORBIS

WINDOWS XXXP

Bill Gates is sleeping in my bed. How can I get him to go away?—*A. Venglar*

Aww, why would anyone want to boot cute lil' dreamboat Billy outta bed?—*Max*

LAST YEAR, LOST YEAR

In your iWork '05 preview ("Think Big," Mar/05, p16), you claim Keynote 2 is "an upgrade to the presentation software released last year." This isn't true. Keynote was released in 2003, not 2004. Keynote 2 was released a full two years after the original Keynote.—*Tony*

Ah, how time flies when you're having fun.—*Max*

BAND OF iBROTHERS

I teach Intermediate Band at a high school. Last year, in an attempt to update what I felt was a slightly demeaning name, I started calling it the iBand. The kids loved it, and the name has really caught on.—*D. Rutan*

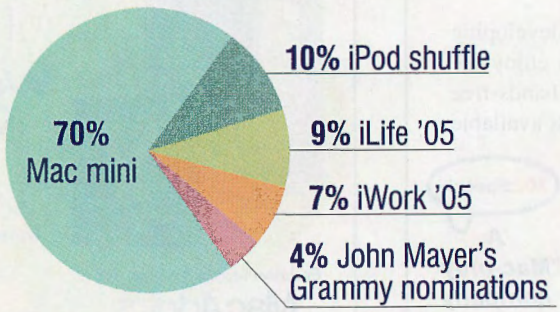
BITTER PHIL

Your articles on Halo ("Halo's Here," Nov/03, p39; *Reviews*, Mar/04, p38) have made my life a wasteland of Grunts, Elites, and Hunters covered in purple pus, not to mention frumpy, creepy Flood dripping in brown goop.

Survey Says

Here are the results of our January 2005 survey. Check out www.macaddict.com each month for a new online poll.

Which Apple expo announcement most thrilled you?



935 respondents

The Flood remind me of my ex-wife—they just keep coming and coming, just like the ex and her attorney at the divorce hearing. —*Phillip Anthony Briles*

MOM'S AN ADDICT

Our family got a new iBook G4 after a recommendation from me, a die-hard Mac fan. After showing my mom how it works, she's now on the thing all the time! Is there any way to get her off the iBook and back to Windoze?—*Lucas Wagner*

Lucas, Lucas, Lucas—that's your poor, long-suffering mom you're talking about! Save your lunch money, buy a Mac mini, and let the ol' lady have some fun.—*Ma*

EYEHOMEOWNER

I recently purchased an Elgato EyeHome digital media player ($199, www.elgato.com) and found that many of the problems associated with your earlier review (●●○○○ May/04, p55) have been eliminated with the new EyeHome 1.52 update. I have a dual 1GHz Power Mac G4, four internal and six external drives, 4,000 photos in iPhoto 5, 15,000 songs and books in iTunes, 96 TV shows in an EyeTV archive, 100 MPEG movie files (mostly EyeTV-archived shows), and 150 DVD movies. I have no problems playing a movie downstairs on my EyeHome unit while doing other work on my Mac—it works flawlessly. If I were to rate the *updated* EyeHome, I would give it four-plus stars.—*Greg Speck*

Glad to hear that Elgato has spruced up its EyeHome—but we call our blue review-ratings buttons "widgets," not "stars."—*Max*

The new Mac mini cookie requires little dough.

SMART COOKIE

When I was making Christmas cookies with my grandparents, we had a little blob of dough left, so I made an Apple. That tells you how often this loyal 12-year-old reader is thinking about Macs. —*Keanan Koppenhaver*

Kudos to Keanan "Keebler" Koppenhaver, the Cookie King!—*Max*

MORE FUN WITH SSH

The March '05 issue's *Unix University* mentions that you can connect to a Remote Login–enabled Mac from another Mac. What you forgot to mention is that you can connect from just about any *other* computer that has an SSH client, no matter what OS it's running—Windows, Mac OS 9 or earlier, Linux, Solaris, Irix, whatever. For example, I regularly control iTunes on my Mac OS X–equipped eMac by running MacSSH (free, www.macssh.com) on my Mac OS 8.1–equipped PowerBook 540. I use one of the more useful commands in Mac OS X, osascript, to run iTunes-controlling AppleScripts on my eMac from the command-line interface of MacSSH on the PowerBook 540.—*Andrew Seidl*

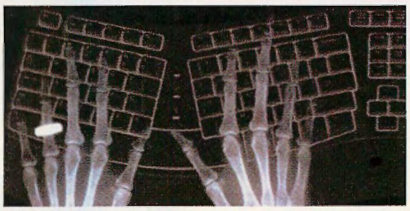
WIN!

Win a Set of ProSticks!

This month, win a set of ProSticks—maxi-muscular, audiophile-quality powered speakers from DVForge ($399, www.macmice.com). Just write the best caption for the picture below and send it in!

Only one entry per contestant.

Entry Form



Write a caption for this picture.

CONTESTANT INFORMATION

Full Name: _____

Address: _____

City: _____ State: _____

Zip: _____

Email or telephone: _____

Send email entries to: contest@macaddict.com with the subject: ProSticks Contest
(Don't forget to include your address information!)
Send snail-mail entries to: ProSticks Contest, *MacAddict* magazine,
150 North Hill Dr., Ste. 40, Brisbane, CA 94005.
Deadline for entry: May 31, 2005.
Contest results will appear in our Sep/05 issue.

Contest Rules The judges will be *MacAddict* editors and will base their decision on 33 percent humor, 33 percent originality, and 33 percent creativity. All entries must be received no later than May 31, 2005, with the winner announced around September 2005. By entering this contest, you agree that Future Network USA may use your name, likeness, and Web site for promotional purposes without further payment. All prizes will be awarded, and no minimum number of entries is required. If two or more people enter identical winning captions, the entry received first will be awarded the contest prize. Prizes won by minors will be awarded to their parents or legal guardians. Future Network USA is not responsible for damages or expenses the winners might incur as a result of this contest or the receipt of a prize, and winners are responsible for income taxes based on the value of the prize received. A list of winners may also be obtained by sending a stamped, self-addressed envelope to Future Network USA c/o *MacAddict* Contest, 150 North Hill Dr., Ste. 40, Brisbane, CA 94005. This contest is limited to residents of the United States. No purchase necessary, void in Arizona, Maryland, Vermont, Puerto Rico, and where prohibited by law.

Winner!

Congratulations to Matthew Echert, who won a copy of Macromedia's Studio MX 2004 ($899, www.macromedia.com). And special thanks to the 117 readers who contributed some variation of "C'mon baby, light my fire."

OK, now where are the Rip and Mix ports?

Bread, Milk—and Don't Forget the Apples

Grande lattes come with Wi-Fi connections, iPod shuffles are sold next to Wrigley's gum in Japanese 7-11 stores—it won't be long before the dream of a Mac in every home and a 'Book under every arm comes true. Don't believe us? Take a look at what we came upon while shopping for bananas and toilet paper at our local supermarket.

iLove.

What Mac users are saying about EarthLink® High Speed.

You love your Mac. What about your Internet? Meet EarthLink High Speed. Get your heart racing with a blazing-fast connection that's up to 3Mbps. You'll download your free iTunes and photos in a snap, watch movies, play games, and more. And with EarthLink, there's a lot more to love than speed:

- Protection from online scams, email viruses, and spam
- Free dial-up access for 20 hours a month
- 8 email addresses, each with 10MB of webspace
- Address Book syncing
- Award-winning, Mac-friendly customer support
- 20 FREE song downloads from iTunes

Call: 1.866.263.7370

Click: *www.earthlink.net/go/macaddict*

Starting at **$19.95**/mo. for 6 months*

plus **20** FREE iTunes Music Store® downloads**

*Offer good for a limited time. Service not available in all areas. Certain taxes and fees may apply. Prices subject to change without notice. Offer available to select new EarthLink High Speed subscribers only. May not be used in conjunction with any other offer. DSL offer requires a 12-month subscription. Early-termination fees apply. Introductory offer of first 6 months will be billed at $19.95 per month; $39.95 per month thereafter for 1.5Mbps service. Includes standard DSL installation kit. Does not include shipping and handling charges. Additional equipment may be required. Other restrictions may apply. **The iTunes Music Store Gift Certificate code will be sent to your EarthLink email address after your first complete monthly payment is received. Please allow 4-6 weeks processing time. See iTunes Web site for redemption usage instructions.

© 2005 EarthLink, Inc. EarthLink and the EarthLink logo are registered trademarks of EarthLink, Inc. iTunes, Mac and the Mac logo are trademarks of Apple Computer, Inc, registered in the U.S and other countries. Trademarks are property of their respective owners. All rights reserved. F226-4537

Mac

SpamBlocker · VIRUS BLOCKER · ScamBlocker™

EarthLink® HIGH SPEED INTERNET

© 2004 Microsoft Corporation. All rights reserved. Microsoft, Windows, and "Your potential. Our passion." are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. Apple, Mac, and Macintosh are registered trademarks of Apple Computer, Inc.

Microsoft
Your potential. Our passion.™

Let the PC world come to you.

Copy and paste. Drag and drop. Switch between Mac and Windows® applications as easily as clicking between documents. Microsoft® Virtual PC for Mac Version 7 lets you run PC programs on your Mac like a pro – sans the suit and tie. See it work at www.microsoft.com/mac

Microsoft Virtual PC for Mac
VERSION 7